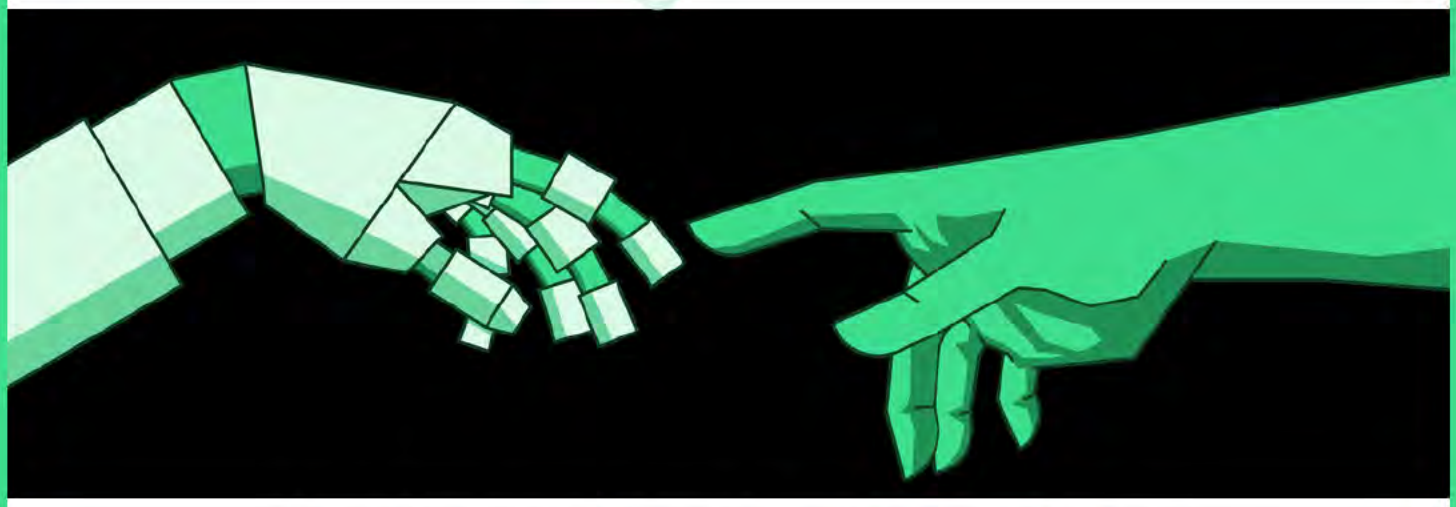

Artistry Meets Algorithm

A Creative's Guide to AI

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Master of Fine Arts Thesis

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Final Signatures

Artistry Meets Algorithm: A Creative's Guide to AI is a Masters of Fine Arts thesis prepared by Amanda Hoover for Liberty University's Department of Studio and Digital Arts.

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Abstract

As technology advances, its integration with the graphic design field becomes increasingly prevalent. This can be seen especially in artificial intelligence programs and generative AI. With the rapid emergence of this technology, young graphic designers are left threatened by AI in relation to their graphic design careers. This occurs for several reasons such as lack of knowledge of AI and lack of training in using it. This paper aims to highlight the importance for these young designers to understand artificial intelligence through the examination of its practical application to the design field. In addition to this, the history of artificial intelligence will be discussed in detail through its current role in both society and the lives of graphic designers which highlights how it has already been affecting the lives of designers. The challenges of learning this technology can be daunting but through its application and continual effort from a designer to learn this technology, the tensions felt by the designer can be alleviated in order to showcase how artificial intelligence can benefit them in their careers. Case Studies showcasing the use of AI by designers are examined in this paper also demonstrate how using the AI has affected the attitudes of the designers toward a technology that is intimidating and new in a positive way.

Chapter 1

Introduction

Research Problem

Throughout human history there has been a constant desire for technological progress. Each decade has seen its own pivotal piece of recent technology that has affected the world. The 18th century saw the invention of electricity; the 19th century had the telephone; the 20th century brought forth the rise of computers. In the current day, the invention of artificial intelligence, or AI, is now taking the forefront of development. Artificial intelligence has found potential use in a wide variety of fields including the medical field, analytics, marketing, production, and automobile. Graphic designers have also found that artificial intelligence has been advancing enough to impact their fields as well. Along with this advancement in technology brings concerns about this technology. **Junior graphic designers often lack knowledge and training in generative artificial intelligence technology leading to fear regarding their future career prospects.** This lack of training creates tension about using artificial intelligence, how it will change the graphic design career, and if it has the capability to completely replace graphic designers.

As a graphic designer within this demographic, I have seen first hand how emerging artificial intelligence can cause concern in my peers. I also had reservations regarding this technology until I took a closer look at it. I now would like to aid in expanding the minds of my fellow designers in order to aid them in adapting to this technology as well as encouraging them that it will not overtake them or threaten their positions. As this technology continues to advance, having a fundamental knowledge on what artificial intelligence is and how it works will be vital in a designer's ability to adapt to the changes it can bring.

Objectives

In order to provide a thorough look at artificial intelligence and its impact on the future of design, I will discuss the fundamentals of artificial intelligence with a technical look at its historical development, current role in society, and potential future capabilities. This will be followed up by a look at the current role of technology in relation to graphic design and how technology in general has developed to impact the designer and their creative processes and capabilities.

Additionally, Case studies performed by other academics relating to AI will be

discussed as part of this study in order to show how current designers can interact with this technology in a productive way. Accompanying visual studies will reaffirm this concept through a thorough look at different pieces that were made with the assistance of artificial intelligence or were presented to an audience under the guide of being human created. This will provide an insight into the practical use of AI by real designers as well as the public's perception of AI and human-created artworks.

Research Question

All of this research has been culminated in order to answer the question, "Should young graphic designers be concerned over the advancement of artificial intelligence?" This is followed by the question "How can existing concern over artificial intelligence be alleviated?"

Knowledge Gap

Despite being thorough in this analysis, this study will not discuss the intentions of the developers of AI. The developers' intentions should be factored into the ethics portion of AI as they may have had more insight as to how designers could better utilize their technology professionally and ethically. In addition to this, it is important to note that there were no human interactions within this study. All human-related anecdotes were pulled from related studies and academic resources that aid in solving this problem. Due to the topic of artificial intelligence in design is a relatively new subject, there is limited research currently available for reference which means the state of generative artificial intelligence and all of its relevant topics are subject to change in the future.

Significance

An examination of artificial intelligence's role in design as compared to past technological advancements will then lead into a discussion on the gaps in knowledge of the designer about artificial intelligence. Identifying the challenges of learning artificial intelligence and the adverse effects of rejecting this technology will be vitally important for understanding why designers must learn how to adapt to the changing field. With not understanding this technology comes fear of workplace security. These fears and concerns over artificial intelligence will be analyzed in order to identify how this tension between technology and designers can affect job development. Throughout

this examination, the benefits to using artificial intelligence will be presented along with the ethical developments currently being discussed and implemented into place within the scope of AI usage and development. The points discussed in this study are important for the young designer to understand and learn about AI in order to help them adapt to this growing technology. Artificial intelligence is only going to continue to advance and develop, which is why upcoming designers should be equipped with the knowledge about this technology that will help them be able to utilize this new tool for success in their careers.

Chapter 2

Research

Rationale

Ever since the emergence of the computer, graphic designers have had to adapt their workflows in order to accommodate the new and developing technology. New programs and features allow for designers to be able to design more efficiently as well as give more freedom for the individual to create a product exactly how they envision it. With each big technological development comes its own set of problems and concerns. Generative artificial intelligence has now taken that position causing young graphic designers to find themselves untrained and uneducated in this new technology. This leads to concerns over how artificial intelligence will affect their careers, or if the need for human designers will be replaced entirely. This negatively impacts young designers' relationships with new technology which can cause them to fall behind professionally in their design careers as compared to their peers.

Through this investigation, the goals were to discover trends related to past technological developments in order to compare them to current technological trends in order to see how past individuals reacted and adjusted to new technology. In addition to this, the importance of having education and understanding of artificial intelligence were presented in order to demonstrate the relationship between designers and the technology they use. Through this it could then be determined how designers could properly utilize artificial intelligence in order to better streamline their workflows as well as making them more comfortable with the technology as a whole. Reducing the fear of artificial intelligence through providing understanding of it is the main goal of this research.

Research Methods

In order to solve the problem pertaining to young graphic designers' lack of knowledge and unease regarding artificial intelligence, there was first research culminated on the topic. This regarded a variety of subtopics such as past technological advancements and their impacts on society, the current state of artificial intelligence throughout society, as well as its history, and the significance of technology as it relates to graphic design. This research was imperative in understanding the full scope of artificial intelligence as well as its implications in the future of graphic design so that its affect on young graphic designers could be fully understood.

Case studies were also utilized in the research methods along with an accompanying visual analysis.

> *"(AI) is used daily by many people who do not realize they are using artificial intelligence."*

There were 3 case studies and visual artifacts that were analyzed throughout this study. For each study there were thorough examinations of who performed the study, the goal of the study, its methodology, the results, and any issues the researchers had while performing the study. The visual analysis was then performed on the artifact from the prior study in order to examine the significance it had as well as its overall composition, content, and impact it had within the scope of the study.

Two of the case studies chosen for examination were relating to generative artificial intelligence in relation to artists. These studies were imperative in demonstrating the ability for creatives to work with artificial intelligence in ways that are practical while showcasing their own opinions on their experiences. The corresponding visual artifacts were visual proof of the way this relationship between the creative and AI can positively influence the role of the designer without overtaking their position. The third case study demonstrates the connection between man-made art and AI-generated art through highlighting the value a person will put on human-created art as compared to the value placed upon art that is perceived as AI generated. These corresponding images are both AI generated though the onlooker would not be able to tell save for the label the researcher had placed on them at random prior to the participants' viewing. This study and related visual study are both used to demonstrate that the value a creative piece has is not based on what it looks like aesthetically, but the perceived intention behind it. Human-created art is held at a higher value as compared to AI generated art due to the human intention and connection to the piece which then can be used to show how AI-generated images will not replace the need and value of human-created design works.

Summary

Understanding Artificial Intelligence

Artificial intelligence is a relatively new technology. It has only recently come into the public eye through its advanced development; however, it has already been integrated into society for much longer than most individuals may have realized. Discussion around artificial intelligence began in the 1940s and 50s by different scientists, mathematicians, and theorists. Development began with simple machines that could pick up on patterns in order to evaluate its decisions such as the automated checker player IBM 701. IBM 701 was developed in 1949 by Arthur Samuel in order to create a checker

-playing smart computer that could beat a person "at their own game." This machine took 13 years of machine learning to develop enough experience at the game in order to beat Robert W. Nealey, Connecticut state champion (Chen and Chen 3-5).

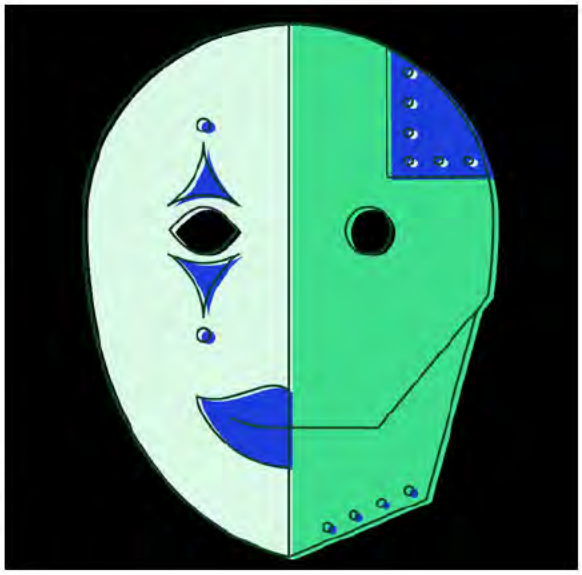
After the success of IBM 701, other game-playing artificial intelligence computers began development including Deep Blue and Go, which are chess-playing AI computers. As mentioned, IBM 701 utilized machine learning in order to gather information from which it can "learn" from. Machine learning is defined as "the process of learning to execute tasks to achieve certain goals, such as classification, clustering, prediction, pattern recognition, and so on. Computer systems are trained to archive the learning process by analyzing sample data using several algorithms and statistical models" (Thillaiarasu et. al 194). The beginning of artificial intelligence was slow as scientists worked to engineer innovative technology that was capable of "learning."

Being able to teach a computer to play games such as chess and checkers showed that it could learn strategy through wins and losses against control subjects that would allow it to eventually become a challenging opponent. From there, artificial intelligence could take off in development with researchers finding better ways to train more intuitive AI that could have much wider capabilities throughout society than just to be an opponent in a table-top game.

Today, artificial intelligence can be seen all throughout society. It is used daily by many people who do not realize they are using artificial intelligence. In a smart device, such as a smart phone, tablet, laptop, or smart home pods, there is generally a voice assistant available to the user. This may be Siri, Alexa, or Google Assistant. These assistants are something used daily that are all powered by artificial intelligence. The artificial intelligence used for these devices allows them to learn the habits of their owners in order to be able to suggest alarms to be set, or lights to be turned off, or other useful tasks to aid in the life of the device owner. These artificial intelligence tools have been available now for over a decade to users. Though they can choose not to enable these features, or buy devices that do not have these capabilities, most decide to utilize these digital assistants to make their daily lives easier or more convenient. Websites such as YouTube and social media applications use artificial intelligence in their algorithms in order to gather data on what kind of content users interact with in order to be able to suggest similar content that the user may also have interest in. Google uses this information to curate targeted ads and news from websites the user has visited while logged into a Google account (El Morr 54). On a larger scale, artificial intelligence is capable of

much more than just acting as automated assistants. In marketing, artificial intelligence chatbots have been utilized to assist with simple customer questions and issues in order to direct human power to other, more important tasks. The rise of artificial intelligence in healthcare fields has also seen exponential growth, especially since the COVID 19 pandemic. It has found many uses such as automating administrative tasks, tracking analytical data, and providing safety checks in high-risk situations that aids a human counterpart in ensuring proper steps, guidelines, or precautions are being put into place (El Morr 13). It can be also be seen in automobiles such as Tesla, which utilize artificial intelligence suggestion and automation in its driving capabilities in order to help decision making, emergency protocol such as braking, and automated merging and turns. Though some of these capabilities are very new, or just starting to become popular implements, the increase in artificial intelligence assistance throughout society is one that is becoming impossible to avoid.

Artificial intelligence's capabilities are not just limited to marketing or STEM careers. Graphic design and the arts have also had to adjust to this new technology as it continually develops new capabilities. New artificial intelligence machines simulate creativity through generative artificial intelligence. This kind of artificial intelligence can generate text or images. Examples of this technology include Midjourney, DALL E, and Nightcafe which a user can type a prompt into and receive unique, generated images that resemble art in a variety of styles depicting what the user desired. More technical AI tools include Logojoy, which can generate logos for a user based on prompt in whichever font style they choose, Adobe Sensei, which is an artificial intelligence-powered photo editor, and Designscape, which generates page layouts and adjusts layouts to accommodate for



predetermined design principles (Karaata 5-10). These tools are very promising for the use for graphic designers through their ability to generate ideas that create a foundation for design. Common Adobe products, such as Photoshop, are also starting to implement artificial intelligence generation into its capabilities in order to aid the designer in adding to images with minimal effort in order to streamline the creative process and pro-

vide smart generation that gives the user more creative options in their designs.

Ethics in Artificial Intelligence

The advancements in artificial intelligence bring into question whether or not it can be harmful to the user. This is where the idea of ethics comes into play. Ethics are a series or moral guidelines, rules, and principles that determine what practices and behaviors are good or right (Siau et. al). This is a complex topic that can be very subjective, which makes it difficult to analyze and identify. In terms of artificial intelligence, ethics refer to the moral obligations of the technology and its creator to the audience. This means that the artificial intelligence and those who create this technology need to keep ethical guidelines in mind in order to best serve those in need and protect the rights of their society.

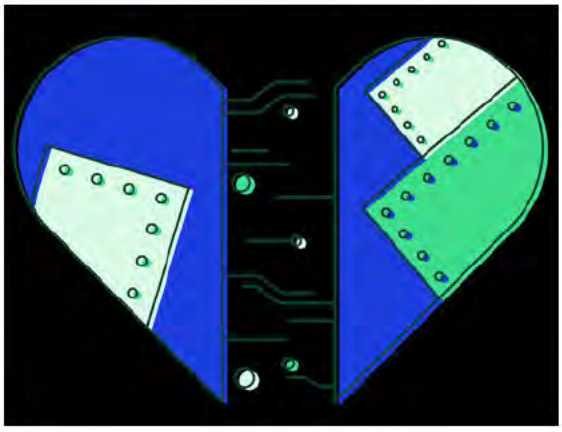
> ***"When one does not understand how the tool works, it will be used incorrectly."***

Many decisions when creating new technologies are good-natured. The idea that collecting a person's data in order to better serve them may seem like it is beneficial for the individual, though it can actually be a major breach in privacy for the user. This is where ethics in technology comes into play.

Common concerns in regards to the development and implementation of artificial intelligence is the threat to privacy and the collection of personal data. We already see this across platforms such as Google, which collect and track user data. The artificial intelligence in Google than allows it to make very accurate estimations in the user's age, marital status, place of residence, age, and more. Artificial intelligence used in government surveillance also can affect a citizen's right to privacy as facial recognition gives the user of artificial intelligence the ability to identify and track those who come into contact with the surveillance system (Siau et. al). This plays into the ethical training of artificial intelligence as the data sets used to train this technology may not have been released to the creators of the systems for their use. Artificial intelligence trained with content that was not public release or obtained in a way deemed ethical was in part developed by creators and people who had no desire to contribute to that project. Another common concern is the fear of job loss as artificial intelligence automates many different tasks in a variety of job fields. Jobs who are hiring may also utilize artificial intelligence tools such as HireVue in order to screen resumes and interviews for candidates that fulfill a pre-determined algorithmic set of data in order for the hiring process to continue. This means that candidates' resumes may not ever be viewed by a real individual at the hiring company (Bashir 69). Protection for the rights of citizens against these ethical concerns is essential in order to ensure public safety

and protection for the rights of everyone in an advancing society.

Artificial Intelligence's growing place within society is still relatively new. These concerns on ethics have always been present, but have not had merit in practice until the implementation of AI. Though still in beginning stages, the current capabilities and future potential of artificial intelligence have sparked real conversation and debate over what ethical guidelines for its implementation and development should look like. In regards to data harvesting and distribution, some places are putting out strict regulations and laws such as the "General Data Protection Regulation" in Europe that addresses data privacy (Bashir 77). These acts still have a long way to develop, but they are a much-needed start to address the issue of personal data protection. As this technology continues to develop, more discussions and protections will have to be implemented in order to continually ensure the safety of the public and to protect their rights. ***Can We Trust AI?*** calls for a balance where artificial intelligence can advance and aid society, especially in needed areas such as elder care and the medical field, while protecting the rights of those who use it and reducing bias in the datasets (Niiler and Chellappa). These concerns are not just limited to artificial intelligence. As technology has grown throughout history, the concerns over public safety and ethics have always remained relevant. In the 1960's machines started to replace assembly-line workers. The displacement of blue-collar jobs led to outrage and upset from those whose jobs were at risk. As a result, unions banded together in order to call for retraining initiatives for those displaced and higher wages for those who remained (Cross and Szostak 358). These initiatives helped to protect workers and ensure that they would still have work even though the job had



changed. These protections are ones that are important topics of conversation today now with a new technology being put into place, but being as AI is not yet at the point in its development where it is actively replacing real people, these are limited to theoretical solutions to potential problems.

Gaps in the Knowledge and Training

As artificial intelligence develops and integrates into the working lives of professionals, there is a distinct lack of training and knowledge and training about what this technology does and how it can work for the individual as opposed to acting as a threat. For graphic designers, technol-

ogy is an integral part of the profession. All of the tools needed are found online in creative programs. In higher education, or college settings, graphic design students are taught the fundamentals for design. This includes art history, the principles of design, and how to design for a marketing setting. With this comes classes on how to utilize tools that are used in the industry such as the Adobe Creative Suite.

> *"(Fictional) narratives do not act as an awareness for the underestimation of AI's capabilities, but instead teach that they are something to fear."*

Newer classes such as 3D modeling and how to design for a virtual reality setting are also being introduced. These classes are all incredibly important for the development of the designer in order to give them the tools and training necessary to equip them for the professional design field. There is, however, a severe lack of training or education on artificial intelligence. Though this technology is new, it has incredible potential for impact on the design industry through its creative, generative capabilities. Designers will hear about this technology existing, threatening their capabilities and potential job opportunities with no understanding of what this technology does or how it can be used as a tool for their own work.

The biggest challenge presented to young designers when working with AI is this lack of knowledge. When one does not understand how the tool works, it will be used incorrectly. Part of this challenge is also the fact that artificial intelligence is still developing and improving which makes understanding its place difficult. There is an incorrect presumption that artificial intelligence is creative, and that this creativity will eliminate the need for a designer altogether. This ideology is inherently false. Artificial intelligence operates through training procedures that enable it to learn and understand trends and patterns observed from a dataset. It has limitations that require an operator to discern when it comes to design. In AI for Creativity Hageback describes creativity as the result of human genius and the ability to glean new ideas from original thoughts, experiences, and feelings (Hageback 6). He goes on to discuss how human creativity breaks rules, whereas artificial intelligence is hard set to follow them. With that understanding, designers can begin to see themselves above artificial intelligence. It is not a coworker, or competitor, it is a piece of technology or a program the same as Adobe Photoshop would be. Once that relationship is established, the artist should have access to training or classes that explain what these programs are and what they can do. Seeing a program such as Logojoy, which was briefly touched on in section 2, can be concerning for a designer. This program generates logo options

based on a user's prompt and color preferences. On the surface, this could make a designer wonder if their services would be needed by a company if they can just generate their own logo through this program. The issue lies in that Logojoy does not have a basis for aesthetics or design principles. It does not know what makes a good, or unique logo. If a designer used this tool, they could take these generated logos and improve upon them to create a better logo that can be turned into a strong brand identity. It is great for providing a base for a design but lacks the ability to make creative decisions based on design principles or client need. It does not erase the need for a designer but does provide a great foundation for a designer's project.

Not understanding new technology leads to not using the technology. The gaps in the knowledge then will put the designer behind their peers who utilize these new tools to streamline their workflow and create results that are desirable to what their clients needs. Failure to adjust to new technology is a detriment to the progression of the career of the designer. It is akin to using an outdated version of Photoshop. If a design firm is using Photoshop 23 as a standard and one employee is using Photoshop 6, the employee will not have access to the tools and capabilities that their peers have. They may create the same results, but likely the process for that employee is going to take longer than that of their peers due to the more advanced tools that streamline their design process and provide ease and flexibility in creative workflows. Humans are hard-wired to learn new information. Society, being made up of humans, has a desire to learn, develop, and change. By refusing to learn, to adapt, an individual runs the risk of becoming obsolete. In *AI in Talent Development : Capitalize on the AI Revolution to Transform the Way You Work, Learn, and Live* Meacham states "By teaching learners how to fine-tune their learning skills, we can help them keep up with the accelerating pace of change, integrate new concepts and processes into their daily routines, and develop new skills to help them continue to advance in their careers" (Meacham Chapter 2).

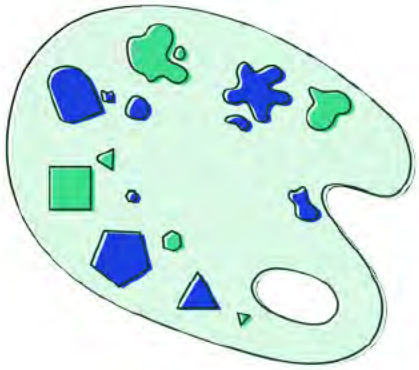
She discusses how workers should be taught new skills and encouraged to learn new things in order to advance themselves and give themselves more flexibility in their fields. Artificial intelligence is not going to be technology that disappears, but will only continue to grow and advance. This makes it crucial that designers give themselves access to the tools necessary to succeed in this growing industry.

Fear and Career Prospects

The idea that artificial intelligence could potentially replace jobs sparks a lot of fear in graphic designers. In order to be a graphic designer, a student will generally endure a 4 year university program and potentially a 2-3 additional year degree

to receive their masters. It is a concerning thought that after 7 years of education one may not get the job they were training for in favor of a machine. This fear prompts designers to avoid using artificial intelligence and to outright reject this concept for the future of society. This outlook on the future of technology is not a productive way to interact with new technology. Designers should look into that fear and understand where it is coming from in order to be able to properly work though it in order to adapt to the changing technological environment they are being introduced to.

The fear of technology replacing jobs is not new. This concern has always existed. Society continually advances in order to find new and better ways to increase productivity, manage time, and better utilize resources. The changes in technology have always fundamentally altered society in a variety of ways including how a family unit functions, what a work day looks like, and what skills are valued. In the pre-industrial age artisans worked from home shops where goods and services were made by hand per order as needed. Family farms were common in order to families to feed themselves. Every person had a role to play. As cities grew and demand for goods and services rose, factory settings took over the traditional artisans of the past. The introduction of machines into the factory setting caused panic in the workers, who feared displacement. These machines could produce parts much more quickly than line workers could with more consistency. With these increases in technology and the replacement of workers brought new opportunities for workers in different areas. Though the line machines replaced many line work jobs, there still needed to be operators and control



officers for the products that came out. There needed to be mechanics to fix the machines when they malfunctioned. There was also a need for service-related positions where customers would interact with employees. These positions were often higher paying than the positions originally lost (Cross & Szostak). Despite the initial fear, citizens adjusted to the new technology and settled into a new way of life.

Today's fear of artificial intelligence is a revival of the same fears that were had about past technology, such as during the industrial revolution. Fears about what the future holds in relation to artificial intelligence is a common concern now. Long before its implementation into

society, most individuals were introduced to the concept of artificial intelligence through pop-culture. Movies such as "The Terminator" (1984) portrayed artificial intelligence as something that was dangerous, evil even. This movie created the narrative that a harmful AI would destroy society if it was not stopped before its launch. Ultron made an appearance in the "Avengers Age of Ultron" (2015) as an evil AI created for good that got its idea of morals twisted. The movie "Her" (2013) portrays a man who falls in love with an artificial intelligence and the social implications that brings to him in relation not the other human characters. Other examples exist in video game media such as GLaDOS, the evil artificial intelligence in "Portal" who seeks to kill the player, and Guilty Spark in "Halo" which prioritizes data gathering over human life. These are only a few examples of artificial intelligence in media. They all present a view of artificial intelligence going rogue to the detriment of their creators and society. *Fear of AI: an inquiry into the adoption of autonomous cars in spite of fear, and a theoretical framework for the study of artificial intelligence technology acceptance* makes the point that these narratives do not act as an awareness for the underestimation of AI's capabilities, but instead teach that they are something to fear (Cugurullo and Acheampong). This article goes on to discuss the fear of artificial intelligence as related to the Frankenstein Complex which was developed by Isaac Asimov. This theory projects that people will reject what they do not understand, such as how the town in Frankenstein rejected the monster because he was created in a lab (Cugurullo and Acheampong). Due to this fear and rejection, artificial intelligence would not integrate into society. Though this has already proven false to a degree as AI can be seen in its infant stages in the lives of many, the question then becomes "Will the benefit of technology outweigh the fear?" AI is not yet at the technical capability of these science-fiction pieces of media, but it has the potential to eventually develop to that point. The article uses the real-life example of autonomous cars to examine what citizens are afraid of and if this good can outweigh the bad. Through this study it was determined that the fears about autonomous cars were logical, most of the test group claimed to be afraid of cars not being capable of making split-second decisions or causing collisions due to faulty data. At the same time, the majority also believed that autonomous cars would lead to less stress while driving and less general traffic collisions. Overall this lead to the final statistic where over half of the test group stated they were willing to adopt this new technology despite concerns (Cugurullo and Acheampong). This demonstrated that though the fears of the test group were very valid given the newness of autonomous cars, the benefits outweighed the concern for them to choose to drive a vehicle powered by artificial intelligence. As it relates to graphic

design, artificial intelligence is not taking jobs away from real people, at least not as of today. The technology is slowly being implemented into the creative industry as it is developed. Generative AI is not yet advanced enough to replace the need for a human designer to refine and adjust designs, layouts, graphics, and compositions in order to ensure the rules of design are followed and the client's expectations are met. The fear of what artificial intelligence can do is competing with the potential benefits it can provide to designers.

> *"Though generative AI is still in its infancy, other artificial intelligences aid in layout, typesetting, and running processes more smoothly."*

Fear acts as a limitation for an individual. It is a human emotion that can determine how one receives change, information, and adjustment in their life. Having a fear of a change, especially in the workplace can have limitations on one's ability to perform and adjust to society and the requirements placed upon them. In The Future of Workplace Fear : How Human Reflex Stands in the Way of Digital Transformation, Steven Prentice discusses fear is it relates to the "digital transformation." Prentice asserts that the fear related to the advancement of technology in the workplace, including AI, is not actually caused by technology, itself. It instead stems from several different areas including fear of change, the unknown, of losing one's job, of losing control, looking stupid, communicating, and others. An individual's concerns may result from one of these or more (Prentice). By understanding those fears, and how to cope with them, one can then better adjust to the changing workplace. One issue that insights this fear is the rapid pace at which technology advances. It can feel difficult to keep up with. This can be seen as new technologies are constantly being introduced in current programs such as those in the Adobe Creative suite. New designers have grown up with these rapid changes, making them incredibly well-adjusted to handle new features as they've been introduced. The fear surrounding artificial intelligence is one of the unknown. Because it is still so new, designers have only been able to get a taste of the potential it can do. This as well as the "it's going to take the jobs" anecdote creates the perfect combination to persuade designers to fear, and even outright reject, this technology. It is not actually known to what extent artificial intelligence can mimic human creativity, which can be a concerning unknown that leaves plenty of room for speculation. This has become a hindrance for the integration and acceptance of this technology. Prentice puts forth the idea that the best way to face fear is to make the unknown, known. Instead of rejecting artificial intelligence, make oneself comfortable with it. This comes in passive and active ways to the

designer themselves. For the designer, they should take steps to research and become informed on this technology. Instead of avoiding artificial intelligence programs, forcing themselves to become familiar with it can aid a designer in seeing what the program can actually do, especially if they approach it as a potential client would to see how the results compare. This familiarity aids in disrupting fear head-on. Additionally, some responsibility should fall onto employers who integrate AI as well as institutions training new designers to come into the workforce. Introducing this new technology in a controlled way that ensures that the designer understands it and can be better prepared to work and interact with the artificial intelligence in a practical way. One would not expect a graphic designer to graduate from a university without a fundamental knowledge of the Adobe Suite, which is an industry standard for graphic designers in many areas. It is also reasonable to expect a newly graduated designer to have some experience in a variety of mediums including 3D modeling, AR design, photography, and studio art, even if the designer does not specialize in these fields. This is so that the designer has familiarity with a wide variety of tools and techniques in order to best equip them for the needs of their future employers in their careers. This makes a previously unknown technology or program much less daunting should they need to utilize it later on, thus eliminating the fear of that medium. It then should be considered to include artificial intelligence in a school curriculum or workplace training course to better prepare the designer to succeed in that industry.

Working with AI as a Creative

One critical part of understanding artificial intelligence in relation to the creative industry is acknowledging if AI can be creative. This was touched on briefly in section 4 when addressing the need to educate on how artificial intelligence works and what its capabilities are. First it is important to understand what creativity is. According to Merriam-Webster, creativity is the ability to create, which in this case is defined as "to produce through imaginative skill" (Merriam-Webster.com). This leads to the understanding that one who creates, or has creativity, must also have the ability to be imaginative. In relation to "creative" industries, this has generally been a simple concept. Humans utilize their creativity in order to find solutions or to make ideas and projects to fulfill a role, need, or desire. In the arts creativity can simply be referred to the act of making something new. In graphic design, designers are taught and encouraged to find "creative solutions" to problems. "Creative solutions" refers to coming up with unique layouts and designs that solve the problem in an unexpected or unique way. With the introduction of artificial intelligence into creative fields, the idea that machines can match human creativity has become a com-

mon concern. This is not a concern that is only limited to graphic designers, but studio artists as well. Though artificial intelligence can simulate human creativity, it is not capable of creativity in the same way as a human is. The Rise of

> *"Artists themselves have been challenging the idea of art, seeking to break the rules set upon them by preexisting establishments in order to redefine what it means to be creative."*

Metacreativity: AI Aesthetics After Remix describes this kind of creativity as "meta creativity" and defines it as such, "an advanced stage of creative production that is transparent to humans as a process that consists of reinterpreting and repurposing material previously produced" (Navas 11). This type of creativity is non-human, relying on the training of datasets of preexisting material in order to identify trends and aesthetics that a machine can replicate and reproduce. It can then be questioned whether or not what is created by a machine can be considered art at all. That does then rely on the individual to answer.

This question has been posed countless times since the beginning of human history. Artists themselves have been challenging the idea of art, seeking to break the rules set upon them by preexisting establishments in order to redefine what it means to be creative. One only needs to glance at "The Creation of Adam" by Michelangelo and "Fountain" by Marcel Duchamp in order to see the stark difference between the artworks. One could argue that the work by Michelangelo may have required more technical skill than "Fountain," but the creativity behind Duchamp's "anti-art" pieces did not lie in his technical ability, but the context and meaning behind them. This meaning was placed upon the work by the artist with his imaginative capabilities which translated into a creative solution. Likewise, humans pull from their experiences and feelings in order to perceive the world around them, thus influencing what and how they create as compared to an artificial intelligence's preprogrammed set of data (Bolojan). Hageback expands upon this by identifying that artificial intelligence has a sort of machine-creativity but lacks an imagination. He goes on to elaborate that, when faced with a creative problem, there generally is not just one concrete answer as there could be in a more scientific setting or a mathematical equation (Hageback 71-72). It may be able to predict a solution to the problem but lacks the imaginative capability to think "outside the box" in order to come up with definitive value-adding solutions. Kore in Designing Human-Centric AI Experiences : Applied UX Design for Artificial Intelligence suggests that the limitations of artificial intelligence will even cause companies that rely solely on AI to stall. This is due to the creative limitations of machines as compared to people

(Kore). Though artificial intelligence has the innate quality to sift through large quantities of data to find potential solutions, it lacks the imaginative capabilities of people to supplement with the ability to create solutions for complex scenarios in a creative, spontaneous way that fosters unique ideas. In short, artificial intelligence does not possess the same creative capabilities that a person does but does have access to its own ability of "meta-creativity." This form of creativity can generate a variety of creative solutions but lacks the imaginative capabilities that sets human creativity apart and allows humans to come up with unique, innovative solutions. This can also be observed through an examination of the case study Humans Versus AI: Whether and Why we Prefer Human-Created Compared to AI Artwork.

Though artificial intelligence and human creativity are different, there is a benefit to AI's limitless ability to generate solutions. Because AI can only act within the parameter's it is programmed to, its solutions do have a limit in their creative capabilities. These solutions do, however, create a "jumping off point" for human designers to create a better, more adequate solution from the merging of human and AI creativity. Hageback discusses this human and artificial intelligence relationship through an examination of the creative process. The beginning "preparation" phase is human derived with an individual defining the problem and what steps are needed to find the solution to this problem. The following "incubation" phase is where artificial intelligence comes into focus. This phase is where many potential solutions are produced in response to the inputs of the person. Through the project parameters, the AI creates various scenarios that draw from what it has learned from its data sets. The final "illumination" and "verification" stages then turn back to human reliance for the ordering of potential solutions and then refining, testing, and implementing the solutions (Hageback 74). Through this model, we can see how artificial intelligence can aid in the design process through generating a multitude of potential solutions while still relying on the human designer to select and refine its ideas to a usable solution. Filimowicz discusses the history of automatons working alongside people in "AI and the Future of Creative Work: Algorithms and Society." He states that the idea of animated helpers has been mentioned as early as Aristotle's lifetime, though these were just theoretical technologies at the time. Though our "helpers" do not look like robotic versions of humans as predicted, the same thought-processes stand that they require additional help and input from humans in order to properly function. Filimowicz proceeds to question the idea that artificial intelligence will become colleagues rather than tools. Though artificial intelligence has many helpful capabilities, it is not a human. It can simulate

pleasant conversation and interactions with humans that are inoffensive and encouraging, but it is incapable of human emotion. In the same breadth, humans should always have domain over the AI system. A colleague has to have these 3 similarities to oneself, "(1) type of work content or domain of activity, (2) institutional affiliation or common purpose and/or (3) status or level of responsibility" (Filimowicz 11). Artificial intelligence, as it stands today, is only capable of acting as a tool. It is not capable to fulfilling all of the parts of the creative process and therefore is not at the skill capabilities of a human designer. Keeping this in mind, it is important not to place the importance of artificial intelligence over the skillset of a human for that reason. They make excellent tools, but are not equals to human designers.

> *"The arts (mixes)with technology in order to create a new medium that combines the creative ingenuity of people with the unique capabilities of artificial intelligence."*

Many creative fields have already adopted artificial intelligence tools into their industries. This is not just limited to graphic design. It can also be found in studio arts, the fashion industry, the music industry, and the film industry. This studio arts industry in particular has really taken to this technology, with the arts mixing with technology in order to create a new medium that combines the creative ingenuity of people with the unique capabilities of artificial intelligence. Though there are still some of the same criticisms over the fear of AI replacing human artists, others have chosen to embrace this technology. Zylinska pointed out that art and technology were considered the same by the ancient Greeks. In *AI Art Machine Visions and Warped Dreams* she continues to talk about the artist's relationship with artificial intelligence, calling it "crowd-sourced beauty" (Zylinska 49). This is referring to the idea that a person "knows what they like" as dictated through society's fads of the time. The concept of machines making art is new, and thus it is inherently interesting. Its capabilities are still being fully discovered and utilized by artists in new ways. In some aspects, using machines allows them to have capabilities traditional mediums may not. In *Ask Not What AI Can Do for art... But What Art Can Do for AI* Tromble describes a gallery event they had attended where the projects were exclusively artificial intelligence-based. In the lobby, an artificial garden was constructed where constructed flowers would have cameras inside of them. These cameras could detect the expressions on people's faces which would prompt the flower to glow a specific color (Tromble). The artificial intelligence in these flowers gave the artist new ways to interact with their audience that would not be possible otherwise.

The fashion industry has also utilized artificial intelligence in its own way. This creative field is a more market-based field which means that there are different kinds of customer interactions as opposed to that of an artist or designer. In order to cater to a consumer, the fashion industry utilizes artificial intelligence to predict trends and analytics in order to recommend clothing to the individual that suits their style. These consumers can also utilize AI "smart mirrors" on their devices to give them a depiction of what an article of clothing may look like on their body without having to go to a store to physically try it on (Barron). An example of this is Zenni Optical, a glasses company that allows users to do a "virtual try on" so that they can see what a pair of frames would potentially look like on their face before buying. This is beneficial as the prescription lenses in glasses must be ordered unique to the user which can be costly and take an extended period of time to arrive once ordered. The AI virtual mirror gives the user the ability to remove some of the fear and concern when ordering prescription glasses so that they can be sure that they will be happy with their frames, thus improving customer satisfaction overall.

In graphic design, artificial intelligence-based systems can be seen in use already. The common programs used by most professionals, such as Adobe's Photoshop and Illustrator, utilize artificial intelligence in ways unbeknownst to users. Though generative AI is still in its infancy, other artificial intelligences aid in layout, typesetting, and running processes more smoothly. This also has cut down on the quantity of additional computational knowledge needed by the designer. The 3D tool in Photoshop, for example, do not require the user to have any additional knowledge of an entire 3D modeling software to use. The program can automatically convert shapes from a flat image to a 3D through prediction in order to present a result that needs little tweaking from the user aside from scaling or other simple changes (Liu). These artificial intelligence implementations to already-existing programs aid the user in being able to create effects and graphics with more ease which then also gives the designer more flexibility in their designs.

Case Studies and Visual Analyses

Figure 2.1 AI Generated Images used in *Humans Versus AI: Whether and Why we Prefer Human-Created Compared to AI Artwork."* Generated on *Artbreeder.*

Case Study and Visual Analysis: Humans Versus AI: Whether and Why we Prefer Human-Created Compared to AI Artwork.

This case study was created through a collaboration between many individuals including Lucas Bellaiche, Rohin Shahi, Martin Harry Turpin, Anya Ragnhildstveit, Shawn Sprockett, Nathaniel Barr, Alexander Christensen, & Paul Seli. The purpose of this research is to determine if people prefer AI generated art over human-created artwork and why that would be in order to gauge if AI generated art could completely replace human-created art and to provide more clarity than prior studies which have shown mixed results in the preferences of humans in regards to AI vs human art

For this study, the researchers aimed to gather in-depth evidence that could better quantify the participants' preferences on what they believe is AI and human art. In order to do this, the participants were given a range of criteria to fill out about the art. The art pieces presented to the participants were comprised exclusively of AI generated art. The program Artbreeder was used to generate 30 images which were either in a realism or abstract style. These images were then randomly assigned the label "human-created" or "AI-created." These images were used in 2 studies that differed in their questions. The first study asked 4 questions regarding how much the participant liked the work, its beauty, how profound it is, and its worth. In the second study additional

questions were added in order to create a better understanding of what drives each participant into categorizing the art in a specific way. These questions included emotion, story, meaning, and effort put into each art piece.

This study's primary line of questioning determined that there was anti-AI art bias that existed in the participant group. In all areas of questioning, there was a preference for what the participants believed to be human-created. When looking at the individual participants' responses about their relationship with AI and their opinions on the art pieces, it was found that those with a better attitude and understanding toward AI program had put a higher worth and profundity on AI art pieces than their peers.

This case study provided valuable insight into how public's perception of AI art affects their opinions toward it. In this case study, all of the sample images were AI generated but randomly had labels that described them as either AI or human-made works. This label was proven to be responsible for the viewers' responses regarding these works. If the image was labelled as AI, it was given lower scores despite all being made from an AI program. In addition to this, the knowledge that those with better attitudes toward AI tended to score AI higher than those who didn't aid in my own research that those who do not understand or are afraid of AI will be less likely to use or interact with it. If the viewers had been given instruction on what AI is and how it is used, it could have potentially caused those who had lesser attitudes toward AI to potentially shift in their ratings of those works.

These images were generated as a part of this case. They were presented were a part of a set that was presented to an audience of people of mixed age and demographic. With the presence of AI art becoming more prevalent in today's society, feelings about this technology have been mixed. The images from this study proved that regardless of whether or not an image was actually generated by AI, the label of being "human-made" creates a preference toward those images as opposed to those with "AI-made."

Through the determination that these images are passable as human-generated works it can be proven that they were successful choices for this case study. These are only 2 out of the 30 generated images used in this study. If it is given that all images were of this same quality along with he fact that the images were each randomly given labels describing them as "human-made" or "AI-made" it would prove that the bias for or against these works would mainly come from the artificial label assigned to the works and the value the test subjects based upon those labels. Through these conclusions I can relate this analysis back to my own problem by showing how the meaning of the art comes from the human work put into the piece.

A work of art generated by AI may look pleasing to the eye, but when compared to a human work of the same quality, it will not garner the same value from the viewer. This then can aid my conclusion that AI will not replace human artists.

Figure 2.2 Francis, Alexandra. "AI and the Arts: How Machine Learning is Changing Artistic Work." *WOMBO DREAM.*

Case Study and Visual Analysis: AI and the Arts: How Machine Learning is Changing Artistic Work

This case study was performed by Anne Ploin, Rebecca Eynon, Isis Hjorth, and Michael A. Osborne who are all affiliated with Oxford University. This study seeks to explore the relationship between artists and machine learning programs in order to determine the current and future changes that could occur to the creative field as a result of AI technology. This analysis was completed through interviewing a variety of artists on their practices and relationships with artificial intelligence on a daily basis. In addition to these direct interviews, curators and researchers within the field of AI were also interviewed in order to create a wide range of data that could be examined in order to present the most well-rounded data on how this technology affects creatives.

The researchers within this case study carefully chose artists to interview that used machine learning (ML) in their artistic practices. The mediums utilized by these artists were varied and included those who used analogue techniques, digital, and a mixture of the two. These artists were then questioned on a variety of subjects regarding this topic. These different subjects include how the ML

affects creatives as a community, the creative process, the boundaries between ML and creativity, and the context around the future of ML and artists. Along with these discussions, there are diagrams and charts presented in order to depict different datasets for the reader. This case study continues this method of research throughout its entirety in order to gather organic data from each individual.

The results of this study found that these participants were in a general agreement that ML could be used to create intriguing artistic results, the need for the artist is irreplaceable through the meaning and context placed upon the artistic solutions by the artist. Artists are capable of making creative choices that ultimately guide the ML to generate a solution for the artist on their terms. These participants also agreed that technological skill is very important in the creative field and find the relationship with ML to be comparative with other technological advancements of the past including the integration of computers in the arts. The conclusion was reached that artists will continue to work through and adapt to this new technology as they have always done with technology that came before. It will only continue to evolve as machine learning evolves.

This set of images act as a collaboration between artist and AI in order to create the cover art for the case study. Them image on the left was generated by the AI tool WOMBO DREAM through the input of the prompt "AI and the Arts: How Machine Learning is Changing Artistic Work." This phrase also serves as the title of the report. This image was then given to a designer, Alexandra Francis, to use as prompt for the final illustration. This image serves as the cover of the report and is the first image seen when reading through the study. Culturally, this image serves as proof that collaboration between human creatives and AI is possible. It also acts as an example of how an artist can utilize this technology within the scope of their creative process. Along with this cover image, the report also included a dialogue that was held with Francis about her experience using AI within her creative process in this way. In summary, she concluded that the AI generated image gave her a kickstart through the inspiration phase of her workflow, which she describes as generally being the most difficult phase to work through. She also mentioned that generally when gathering inspiration, there is common concern over accidentally "ripping someone off" and creating work that is too similar to that of someone else. Because AI generated images, such as this one, are unique and generated per user, there is much less concern over infringing on another creative's work. Francis concluded this section with stating that she would happily utilize AI images in her workflow again in order to spark creative energy and gather composition ideas.

This case study relates back to my own research through its exploration of the relationship between practicing artists and AI. I can relate these findings back to my own research in order to show the relationship between artists and AI as complementary as opposed to competitive through the discussion of the uses of AI as a tool by professional creatives as well as the importance of adapting to new technology as opposed to avoiding it. This will aid my reasoning in how artists and AI can coexist effectively.

Figure 2.3 : Generative AI Image of a Water Bottle on Fire with Wings. Exploring the Educational Potential of AI Generative Art in 3D Design Fundamentals: A Case Study on Prompt Engineering and Creative Workflows. 2023, p. 8.

Figure 2.4: Final Sculpture of a Water Bottle on Fire with Wings. Exploring the Educational Potential of AI Generative Art in 3D Design Fundamentals: A Case Study on Prompt Engineering and Creative Workflows. 2023, p. 8.

Case Study and Visual Analysis: Exploring the Educational Potential of AI Generative Art in 3D Design Fundamentals: A Case Study on Prompt Engineering and Creative Workflows

This study was performed by James Hutson and Bryan Robertson of Lindenwood University. The goal of this research was to disprove concerns about AI technology overtaking the role of artists through examining how it can be used as a tool to improve designers' processes. Specifically, this study is looking at how AI can benefit the education of design students through demonstrating how students interact with a curriculum that includes the use of AI to create their projects. In addition to the projects created, surveys were held for the participants as well as the instructor of the course to determine the effect AI had on the students from both a personal standpoint as well as what was observed by the instructor.

This study focused on demonstrating how AI can be used to benefit students through real-life experimentation. An arts department within a community college was selected for this study. Students taking the class Three-Dimensional Design were given an assignment that required the creation of a 3D sculpture that would first be conceptualized in AI programs Craiyon and DALLE-2. Through the survey process prior to this study, it was found that over 90% of students had not used AI programs in their artistic methods prior. For the project, itself, students had to first input 3 descriptive words into the designated AI programs along with commands in order to generate an image that combined these objects

in a creative way. The students would then take the generated image and use it as inspiration for the final sculpture that they created in the real world. The students were then surveyed at the end of the project to see their thoughts and experiences working with AI technology. These results were then compared to the pre-test in order to gather data that demonstrated where the students' relationships and attitudes towards AI looked like before and after the project.

In the survey given to students after completing the project, it can be determined that students' preferences shifted more favorably toward AI. Many students still had reservations about the technology. Though unsatisfied with their own results, these students still advocated that AI should still be allowed to be used within the creative processes of creatives in a classroom setting. It tested the students' abilities to work with technology and to encourage them to find new ways of interacting with the AI programs in order to achieve results they were happy with. Because prompt engineering is an essential part of working with generative AI, it was teaching the students new skills needed to interact with this technology more comfortably in the future.

This visual analysis consists of 2 images. The first is a conceptual image generated by an AI program by a student in the study. The second image is of a sculpture made by the same student after using the first image as a source of inspiration. The student chose the three words "fire," "Water bottle," and "wings" to put into an AI program in order to create the concept for the final sculpture.

This analysis depicts how the first generated image inspired the creation of the sculpture in the second image. The sculpture is very different from the AI concept. This could have happened for a few different reasons. The student may not have chosen words that would be easy for them to replicate into a sculpture form. They may also not have had enough training or knowledge to properly engineer a prompt for the AI program to create a more maintainable form for a sculpture. The student may not have liked that orientation of the image provided by the AI program. Even with these points, the inspiration taken by the student can still be seen in the color choice and style of the sculpture. Even if they did not choose to replicate the concept exactly into the finished piece, the inspiration given by the conceptual image is meant to provide a foundation for the student's creative process which still makes this piece successful. This can relate back to prior research through relating the use of AI by the artist in order to create a final result. Even if they did not exactly replicate the concept, it was still used as the "jumping-off" point for the rest of the sculpture. This also serves as a further need for students to learn how to use AI programs in order to better be able to utilize them in their own works.

This study was intriguing due to the very mixed feedback given by students. Though they had negative outlooks on AI, the overall outlooks were more positive at the end of the study than before it began. This shows that working and interacting with this technology aided the students in developing better, more informed opinions on AI. In addition to this, their concerns mainly lie in the ethics of the technology as opposed to the results. As with any new technology or programs, there is a learning curve. This relates back to the importance of education of AI technology for young and upcoming graphic designers in order to better acclimate them with new technology and to prepare them for emerging AI technology in the design field. In addition to this, I can also relate their concerns on ethics into the need for need for more cohesive standards of ethics in generative AI.

Conclusion

Artificial intelligence is becoming an integral part of technology within society. As it develops, it becomes more prominent as a tool in both professional and personal settings. Because of its newness, there is a lack of knowledge and understanding of this technology. For young, upcoming graphic designers this leads to many concerns and fears about how the capabilities of this technology will impact their careers. This is why it is important for these young designers to have an education and understanding of how this technology works. By providing an understanding of ethics within this technology as well as a history of its development, designers can strip away the mystery of this technology. The fears and doubts that naturally make them avoid artificial intelligence-based systems can be deterred through making this unknown factor known. This can also be shown through examining the ways that this technology has already been implemented within society as well as in related creative fields such as studio arts. Utilizing case studies that have tackled this issue have provided additional context into how current designers can utilize artificial intelligence in their own work in order to streamline their creative processes and bring a harmony between designers and emerging technology. Through these examinations, it can be determined that artificial intelligence and human cooperation can lead to stronger design products as both skill sets can complement each other, making artificial intelligence a powerful tool to aid designers.

Artificial intelligence as a technology will only continue to develop and integrate further into society. It is already used daily by most people without them ever realizing it. Because of its prevalence, designers will need to learn how to embrace and adapt to it in order to further their careers. By refusing to learn new techniques and skills, it can put oneself behind in their careers. In order to prepare for the changing scope of design, young designers will need to be educated and informed about artificial intelligence and its benefits to them as a design tool. It may be as simple as AI integration into programs that are already in use, such as Adobe Photoshop. In any case, familiarity and preparedness should be learned early in their careers to promote further adaptability as they advance in their field.

This research has provided a firm foundation from which to make my visual solution. The knowledge acquired has given valuable insight into the stakes of the connection between artificial intelligence and young designers. With these factors in mind, designing a campaign that connects young designers and AI will be more informed and will allow for a better solution that will sway the minds of these designers more favorably for

artificial intelligence through providing understanding and demonstrating the use of this technology in creative work.

Generative AI Research

Rational

The project for this thesis requires the use of an AI generator that will be used to create the background art for each deliverable. The program chosen must be able to generate consistent and unique results, have ethical policies in place, and be free to use. This ensures that any artists who are inspired by this campaign can also use these programs easily and be assured that the work generated is created through a means that is ethical and high-quality. I had decided to research 4 different AI generators in order to find which one would be the best candidate for use in this project. For testing these programs, I am using the same prompt for all, "an image that represents the word inspire." If I cannot select the genre of image to create, I will include the word "abstract" in front of the word "image" in the prompt. These prompts are not very engineered and seek to see how each program will respond. The chosen program will have more tailored prompts when working through the project.

Programs:

- *NightCafe*
- *Bing Image Creator*
- *Craiyon*
- *Dream Studio*

Nightcafe

Link

https://creator.nightcafe.studio/

About

Nightcafe is an AI art generator that claims to be different due to its art community. It encourages its users to post their best creations and interact with others on the platform in order to connect its audience. It has a challenge and badge system that gives users the opportunity to win more tokens that they can use for more image generation.

Cost: Free but offers limited daily tokens that are used for image generation as well as subscription services that gives users access to better generation features.

Ethics

Nightcafe does not have any guidelines for ethics. It allows users to use and sell their generated images as prints or NFTS without marking them as AI as long as they do not contain any copyrighted property.

Thoughts

Nightcafe was very consistent with its image generation, but took the word “inspire” literally as a word as opposed to representing the word as instructed in the prompt. The ethics of this program are essentially nonexistent, giving users 100% free-reign to market the images created in any way they see fit

Figure 2.4

Figure 2.5

Figure 2.6

Figures: Hoover, Amanda, a series of images used for backgrounds, 24 Jan. 2024, made using design software and the DALL-E 3, Nightcafe.

Bing Image Creator

Link

https://www.bing.com/images/create?toWww=1&redig=C3BD1E089169422A83BB-6606571B032C

About

Bing Image Creator is owned by Microsoft. It utilizes DALL¬-E 3 to generate images based on a prompt. This program provides instructions for how to get better results through tuning your prompt. Their goal is to bring free AI generation to all of their users.

Cost

Free to use but a user can pay for faster results.

Ethics

This program takes care in ensuring that harmful images cannot be generated. It states that prompts considered harmful will be blocked and unable to be generated. This program also includes watermarks on each image that state that they are AI generated. Metadata is included in each generated image as well, which states that the images are created through AI.

Thoughts

This program is very easy to use but does not understand when the prompt asks for an abstract work. The images are high-quality and beautiful. More prompt engineering would be needed to achieve results that would work for this project.

Figure 2.7

Figure 2.8

Figure 2.9

Figures: Hoover, Amanda, a series of images used for backgrounds, 24 Jan. 2024, made using design software and the DALL-E 3, Bing AI image generator.

Craiyon

Link

https://www.craiyon.com/

About

This program, released in 2022, claims to be one of the best models available, offering free, highly detailed works. It is presented as a fun, exciting tool for all skill-types. Several of the workers responsible for DALL-E Mini are working on this project which allows Craiyon to follow many of the same rules and guidelines.

Cost

This program is free to use but also offers paid plans that give the user more images, faster generation time, and more flexibility.

Ethics

Craiyon does not allow users to generate images that are considered harmful, demeaning, or socially unacceptable. This includes, sexual content, misinformation, and gore. This program also provides all logistical information for the user including the training datasets, procedures, limitations, and environmental impacts.

Thoughts

This program provided a high number of results from the prompt. This gave me many options to look through that all provided something new. The images were fairly low-quality but all provided an "enhance image" option that could scale up and refine the resolution. When I selected an image, it generated other suggested images that were similar and engineered a new prompt for me to try that was more specific. It felt very user, and beginner friendly.

Figure 2.10

Figure 2.11

Figure 2.12

Figures: Hoover, Amanda, a series of images used for backgrounds, 24 Jan. 2024, made using design software and Craiyon.

Dream Studio

Link

https://beta.dreamstudio.ai/generate

About

Dream Studio is a generative AI program owned by Stability AI. Dream Studio does not have much information from its website and requires the user to go to Stability AI's website in order to find information about the company. They advertise themselves as an AI company as "by the people, for the people" with "full transparency". Dream Studio seems to be an image generator as well as an image editor.

Cost

This program is free to use but utilizes a credit system. New credits for image generation can be purchased.

Ethics

There are no ethics stated specifically for Dream Studio. Stability AI boasts that they are fully transparent, offering their codes for review, research, and use, but have no ethics statements or guidelines for users.

Thoughts

Dreamstudio, though in beta, provided very unique images from the prompt in colors that were unique from other generators used. It also decided to be very literal with the prompt by using the word "inspire" in the piece. The ethics and morals of this company were very shaky and unclear for users who do not know how to code or know what to look for in the code.

Figure 2.13

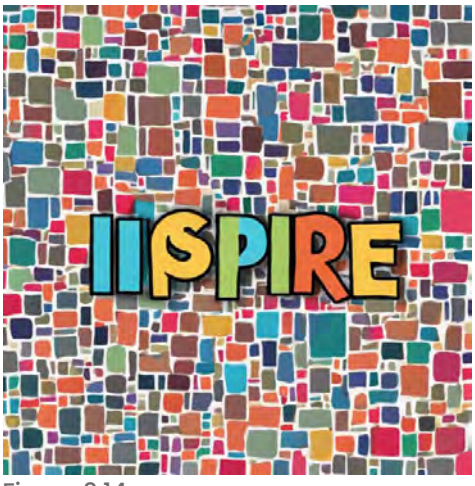


Figure 2.14

Figure 2.15

Figures: Hoover, Amanda, a series of images used for backgrounds, 24 Jan. 2024, made using design software and Dream Studio.

Conclusion

I went back into Craiyon to experiment with new prompts in order to see if I could generate works that would work for my project. Unfortunately the generated works were not what I was looking for. This creator favored large, tie-dye images no matter what sort of prompt I was inputting. Bing Image Generator was creating better results that better suited my needs. The results were much more diverse with a higher-level of detail that would give me more creative flexibility. This prompted me to ultimately choose Bing Image Generator as my AI of choice.

Using Bing Image Generator

The ethics on the issue of image generators is currently foggy due to how new of a concept it is, however, it is important to ensure that the use of AI images in this project is as ethical as it can be. Because of this, the guidelines for the use of images through Bing Image Generator's policies were thoroughly examined before use.

Ethics

I first took a closer examination of Bing Image Generator's ethics in order to examine how they intended this AI to be used and how they would prevent misuse. These guidelines were very easy to find. A small list of common concerns was first found on their homepage, beneath a small set of example images. Point 8 is titled "How is Microsoft addressing responsible AI with Image Creator?" and provides a brief synopsis on their stance on AI ethics which included a link to a larger, more detailed statement regarding their ethics, morals, and standards for AI. This synopsis also included a statement that prompts deemed harmful will be blocked along with a warning statement issued to the user as well as a mention that content credentials, a form of metadata, would be included in each image that labels them as AI generated. Microsoft, the owner of this program, seeks to protect artists, celebrities, and organizations from AI generated images through allowing them to make requests that limit what kind of images can be produced with their image, names, and brands in order to protect their identities and cease the spread of harmful or misleading AI images.

Content Ownership

The next issue I investigated was that of content ownership. What rights does the user have to the works generated? This answer was found in the Image Creator Terms of Use. Point 6 specifically discusses ownership of content, detailing that the user has all ownership of the content created as well as the prompts used in the creation of the products. It may be of not e to include that even though the user owns the content created, Microsoft does have the right to use this content should they desire. The ownership of the content allows the user to post, distribute, and edit the content in any way they desire as long as they adhere to the Code of Conduct.

Code of Conduct

The Code of Conduct is a simple set of rules set in place for each user of Bing Image Generator. These rules are all fairly simple and easy to follow. Some examples include not to share any inappropriate or illegal content such as glorification of violence, child exploitation, or disturbing imagery, and not to create content that violates the privacy of others, or

content that is fraudulent or misleading. Violation of these rules can result in limitation of service or complete suspension from Bing Image Creator.

Watermark

One topic that is left grey is the use of a watermark in the images. In each image, there is a watermark placed in the bottom left corner after they are generated. Once downloaded, this watermark is removed. Microsoft does not mention this watermark in their rules, nor do they state that user must have it in their posted content. Because the user is considered the owner of the content, the watermark is removed upon download, the rules do not state anything about the removal of the watermark, and each image contains metadata labeling it as AI generated, it can be inferred that the user does not need to keep the watermark on the images when using them in any way.

Conclusion

Due to the nature of this project, I will not be including the watermark on these images but will instead be including my own statement on each piece stating that they were made in collaboration with AI. My goal is to be as transparent as possible in this campaign in order to unite artists with this AI technology. I want to let those who see my campaign know that each poster was a collaboration between AI and artist. Bing Image Creator has proven to be the best choice based on their strong limitations on inappropriate content and their desire and willingness to help protect those who could be harmed by AI. They seek to make generative AI accessible for everyone while maintaining a sense of integrity in their content and providing nondestructive results.

Chapter 3

Design Plan Overview

When designing this thesis project, I approached it as I would most other projects I have worked on in the past. I started out with extensive visual research to curate an overall aesthetic that I would aim for. I then followed this research with a step that was completely unique to this project, generating a library of images from Bing Image Creator. These images would provide a base layout for each composition in my final product. I would then move onto my thumbnail sketches to generate ideas for layouts and themes. After thumbnails, I would begin working on rough sketches, which I would choose from to expand into the completed posters and the wall design. I would also work through the social media post designs, though these pieces are not as big as the posters and require less planning than the print material.

Branding

In order to have a successful campaign, I needed to establish a brand identity. This identity would dictate what components would be consistent across all of my final deliverables. I started off with the name, "ArtSync." ArtSync is a culmination of all of the principles that I am aiming to portray with this campaign, which is to "sync" artists and AI together.

I first worked through logo designs in order to create something that accurately portrayed the brand and what it was aiming toward. The logo I landed on would show the two halves of the name of the campaign. They are different colors, but complement each other the way that creatives can use AI to complement their own works.

The colors chosen for this campaign are saturated, modern blues and greens that emanate youthfulness and creativity.

These assets and font choices would be seen all throughout the campaign and would link each piece together so that the viewer can clearly see that all pieces were part of ArtSync.

Logo

Colors

HEX # 1D3EDD

HEX # 3EDD8D

HEX # D9F9E6

Type

Body Copy

Poppins Regular

ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz
1234567890

TITLE COPY

TOMARIK DISPLAY LINE

ABCDEFGHIJKLMNOPQRSTUVWXYZ
ABCDEFGHIJKLMNOPQRSTUVWXYZ
1234567890

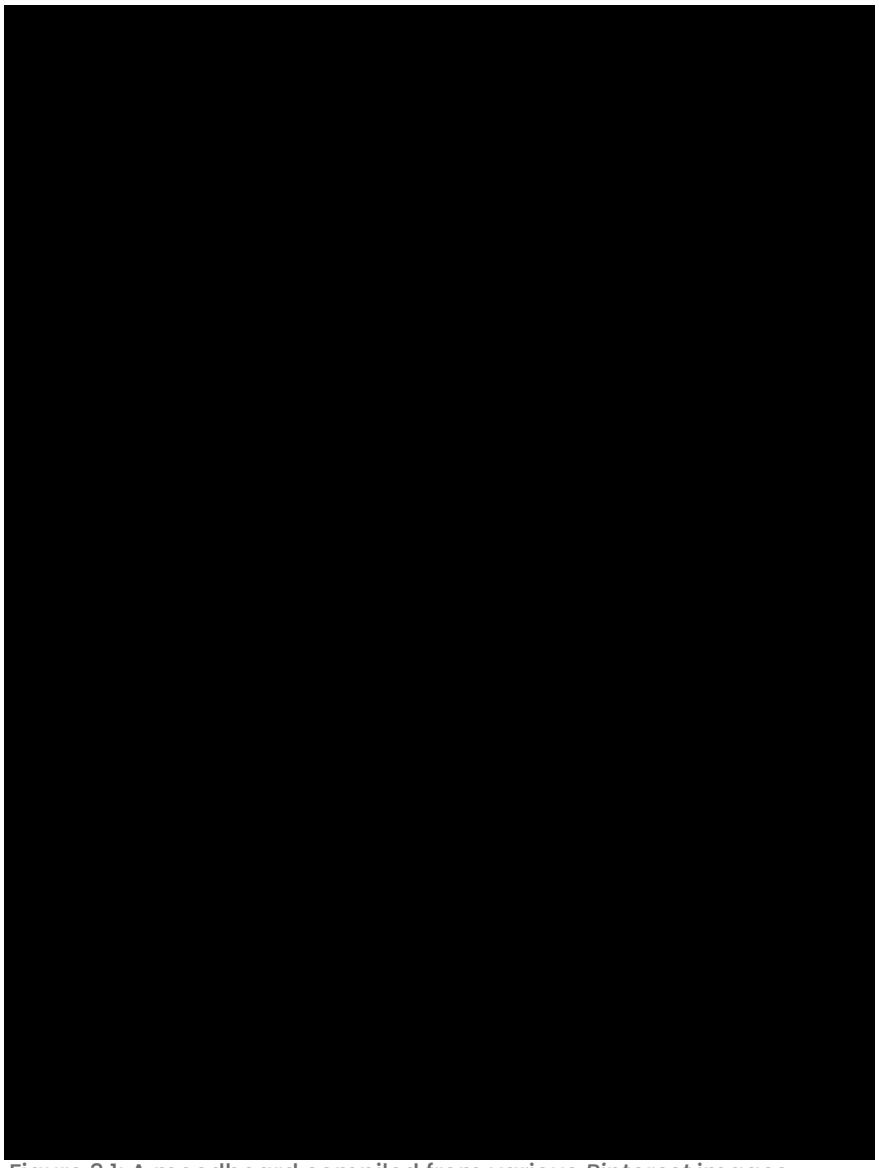


Figure 3.1: A moodboard compiled from various *Pinterest* images.

Visual Research

When looking for visual research, I looked for campaigns and design that was aimed at my target audience, which is college-aged students. I looked through mass image collections, such as Google Images and Pinterest, in order to see what already existed and how I could visually adapt my campaign to match these styles.

I found that I was most drawn toward styles that utilized bright colors, loud, expressive fonts, and a surrealist/pop-art fusion style. Bright colors and these fun fonts are very trendy and modern in today's college students. The surrealist/pop-art fusion style is derived from the general style of AI generated images. These images are generally colorful, abstract, and visually exciting. The blending of these styles can be seen visually depicted in my moodboard where I created a collage of colorful, swirling paintings, bright advertisements, and color-blocking.

Generating Images

The major part of this project is uniting artists and AI. This project does this through utilizing AI generated images as the base for the layout of the composition of each poster. This campaign utilizes Bing Image Creator for image generation. All prompts used were created by me.

The skill of prompt engineering is a new skill that is needed to be developed when using generative AI. I had a specific idea of what I wanted the images generated to look like. They needed to be abstract enough to almost have shapes, but not too abstract that the image would be too busy. These images were harder to generate than anticipated. I had tried a dozens of different generative ideas. For each prompt, I received 4 options in response. I would download the chosen ones into a folder while ignoring the others. If one prompt almost got me to my desired result, I would remake the previous prompt with adding or removing some descriptive words to see if it got me any closer.

I found that Bing Image Creator needed very specific prompts in order to get images that were closer to what I was looking for. I was happier with results when I was generating images with no strong preference or expectation. For example, for one social media post I generated a silly prompt, "a salamander playing the banjo on stage while wearing a fancy hat." I had no expectations for what these images needed to look like other than the generalized idea of a salamander playing the banjo while wearing a funny hat. The images generated were hyper-specific and all would suit my needs perfectly. When generating for the posters, I needed to ensure that the I could edit the images and create works from them that would work in a designed composition. I found that Bing Image Creator did not understand what "abstract" was and instead I chose to use the word "surreal" in all of my prompts to ensure the level of abstraction was to my liking.

Below are the images I chose to adjust and edit for my posters and why they were chosen.

Figure 3.2

Why this Image was Chosen:

The swirling, fluffy cloud shapes created an excellent blank canvas for me to design from. The twister in the center created a great focal point. At first, I considered making it into a bird diving down into the clouds, but had decided against it after creating the rough drafts.

Figure 3.3

Why this Image was Chosen:

This image really seemed to blend surrealism with a pop-art feel. The bright, exciting colors and the incomplete figure of a woman felt as though they could have crawled out of the sketchbook of any studio artist. I wanted to make a twist off of this composition by giving the woman a more solid figure.

Figure 3.4

Why this Image was Chosen:

This image came from the same prompt as the above image. I chose this one because of the incomplete face in the center. This reminded me of a mind bursting with creativity and ideas that could be used as a great starting point for abstract ideas to turn into reality.

Figures: Hoover, Amanda, a series of images used for backgrounds, 26 Jan. 2024, made using design software and the DALL-E, Bing AI image generator.

Figure 3.5

Why this Image was Chosen:

I chose to work with this image because I loved how the swirls and shapes didn't resemble anything. The swirls made a great focal point to use as my subject of the image and gave room for me to be creative.

Figure 3.6

Why this Image was Chosen:

I loved the detail in this scene. It felt like it was transporting the user into a weird galaxy where everything was fluid and colorful. The swirls in the background were especially abstract and held potential to be turned into something new.

Figures: series of background images made using DALL-E, Bing AI image generator.

Sketches

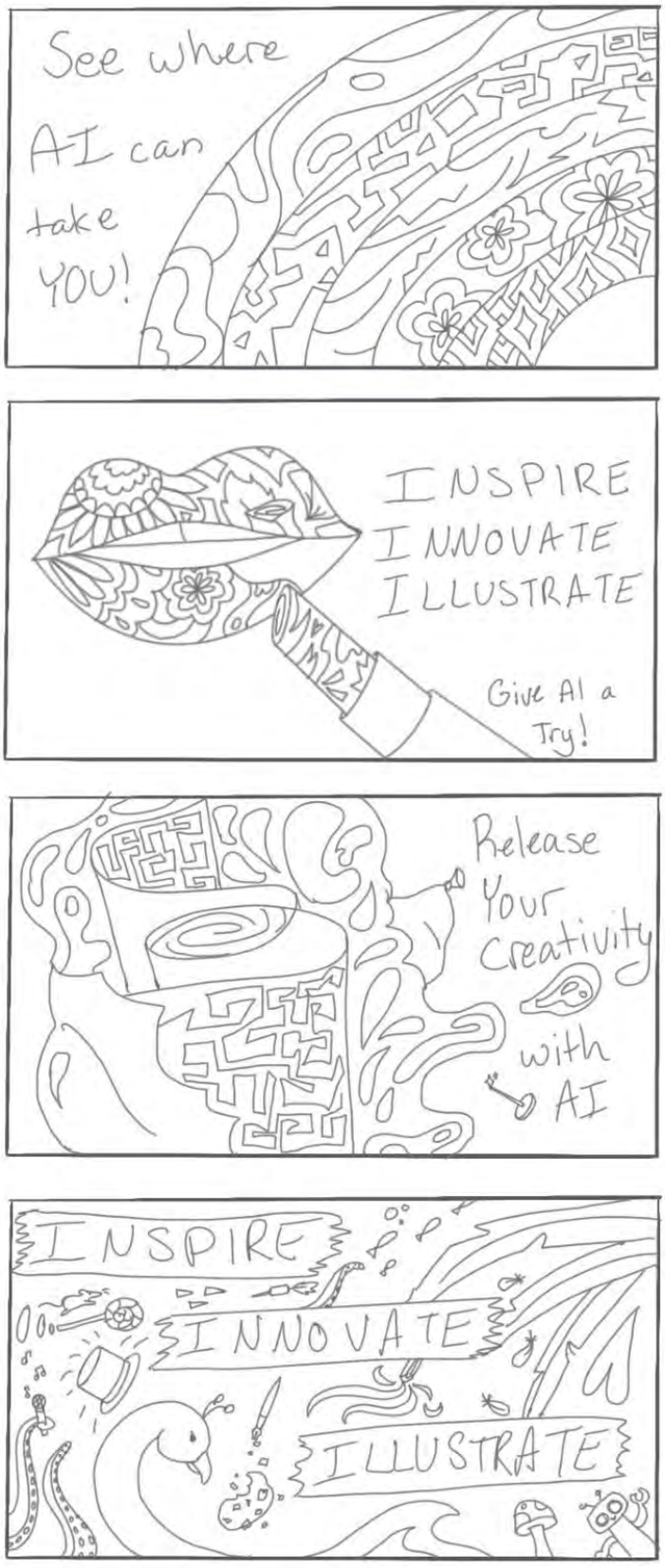
Thumbnails

Creating thumbnails for this project was different from any other project I had ever completed before. With the understanding that the final products were dependent on the images generated from Bing Image Creator, all of my thumbnails were loose concepts based on AI images I had generated before. I created a total of 90 thumbnails, which translates to 15 thumbnails per piece, 75 for poster designs and 15 for wall designs.

I found that designing these thumbnails was different from other projects due to the limitations that were put into place by Bing Image Creator's abilities to create imagery that was not what I had initially anticipated or planned for. I adjusted by creating a variety of different thumbnails that served more as experimentation on different ways in which I could manipulate layout and text instead of serving as a base for a final piece. This stage served more-so as a creative kickoff, with more solid design decisions being made in the rough-draft phase when I began incorporating the AI imagery.

Figures: A series of thumbnail images.

Figures: A series of thumbnail images.

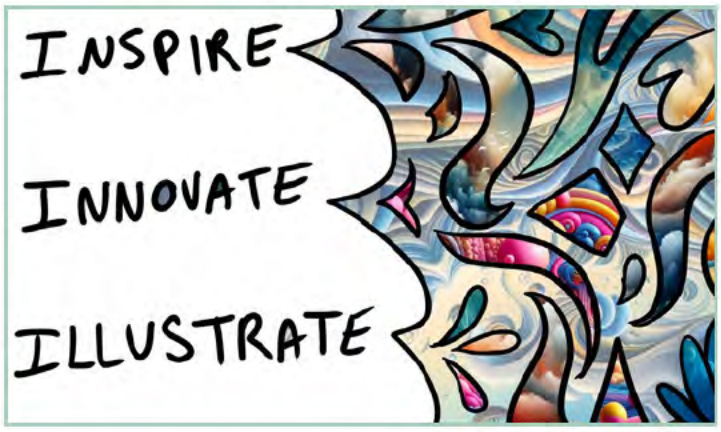


Figures: A series of thumbnail images.

Roughs

After creating a library of thumbnails, I looked through the set of generated images I had accumulated as potential poster candidates. I planned to create a total of 12 roughs. This breaks down to 10 posters and 2 walls. These designs were made in Procreate by hand. I used 10 different image designs and worked with each one to see what kind of designs I could make from the abstract images. These concepts were more fleshed out and provided me with a better idea of how I could practically use each image. This was also my first instance of using the generated images in the creative process.

Figures: Hoover, Amanda, a series of composite rough draft posters, 11 Feb. 2024, made using design software and the DALL-E, Bing AI image generator.



Figures: series of composite roughs made using design software and DALL-E, Bing AI image generator.

First drafts

After finishing the roughs, I picked 5 of the poster designs and 1 off the wall designs to expand into the first drafts. I took these into Adobe Illustrator in order to have more control over the layout, shapes, and export options. For each design, I included the campaign logo and a disclaimer on the bottom left, “This work was made in part with AI.”

This campaign is meant to unite artists with AI. Because of this, I wanted to ensure that I was fully transparent about my use of AI in each composition.

All of these images look very different from each other in color, style, and imagery. The involvement of AI in the creation of these drafts meant that it would be very difficult to make consistent work. To combat this, I used the same font on every piece as well as the campaign logo.

Figures: A composite first draft made using design software and DALL-E, Bing AI image generator.

Poster 1

In the original rough, I had altered the colors of the underlying image to be a scheme of pink, blue, and purple. For the first draft, I had instead decided to keep the warmer tones. I was inspired by the three swirled shapes in the center of the work. They looked like they had been caught in the center of some crazy machine. This evolved into a colorful city-block where three snails were stuck in a predicament. The colors were all taken from the AI image in order to keep a consistent look throughout the foreground and background.

With the business of the composition in mind, I added low-opacity fills onto each of the snail shells so the words could easily be read while allowing the texture to show through.

Poster 2

This composition is very reminiscent of pop-art in influence. The female figure is dramatic and beautiful, with dramatic red lips, nails, and makeup. Her look was inspired by a disfigured woman created in the AI image. Instead of "fixing" her, I worked with the shapes to make her into a cyclops. Her colors are inspired by the colors she was given in the original image.

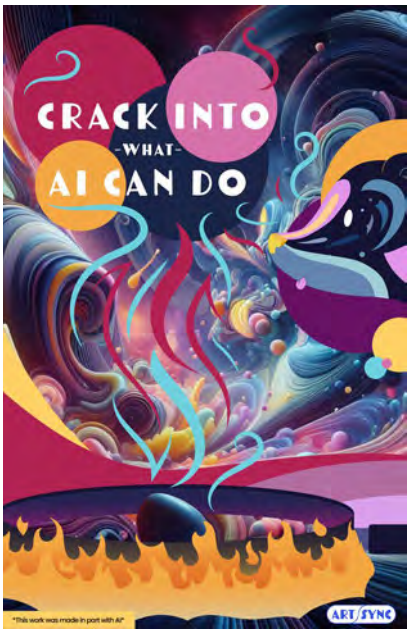
The text on this image was added in over swirls as the composition was too busy for the text to be legible.

Poster 3

For this composition, I wanted to make an image that demonstrated that creativity was unlimited. I took advantage of the dreamy, cloudy composition as well as the incomplete face to create imaginative shapes coming forth from the mind of the figure.

The colors were sampled from different parts of the composition in order to keep all imagery consistent throughout the poster.

In order to make the text legible, I added low-opacity shapes to create a more consistent background. I made these shapes follow the flow of the clouds in the composition to give it more organic feel.



Poster 4

This composition was especially busy with a lot of movement and shapes. The first thought that I had when looking at this composition was that the bottom shape looked like an egg. From there, the scene developed into a whimsical bear character waiting excitedly for the egg to cook while shapes and colors danced off of it.

Because there are so many circle shapes in the work, I decided to continue to play with this composition by adding in big circle shapes behind the text and the bear to make them stand out more.

Figures: series of composite first drafts made using design software and DALL-E, Bing AI image generator.

Poster 5

This composition was intended to have a fantasy element to it. I included a field of colorful mushrooms that appear to grow up from in the clouds. These mushrooms are all unrealistic, creative colors with gradients. An additional piece of fantasy was the inclusion of a dragon peering up over the clouds. Orange smoke comes from its nose, possibly indicating that it had created the clouds.

I included colorful shapes behind the text, similarly to how I did for other compositions, in order to make the words more legible.

Wall Design

This wall design depicts a paintbrush's stroke swirling over the piece. Each section of the stroke takes from a different AI image. It is meant to show how many different, unique possibilities were available with AI.

The white parts of this composition will be the texture of the wall it is placed on. This will show how AI can unleash creativity on a blank space.

Figures: series of composite first drafts made using design software and DALL-E, Bing AI image generator.

Chapter 4

The proposed solution to this project was series of deliverables that included 5 posters, 1 wall design, and a 12-week social media post campaign. These pieces collectively would aim to unite artists with AI through demonstrating the potential that AI had as a tool. All pieces were unique and utilized AI-generated elements in their compositions.

The intended audience for these pieces were young graphic designers in the 18-25 age range. This demographic would still be in school or recently graduated with their degrees and thus would just be starting to enter into the design workforce. The pieces in this campaign are designed to be bright, youthful, and creative in order to appeal to this audience.

Poster and Wall Designs

The poster designs were the most challenging part of this project. The goal was to generate a pool of images through Bing Image Creator, choose 5, and create a layout based on the structure of the image. The content illustrated over top of the image would be directly inspired by the generate image as well as the colors, and text placement. This caused all of the posters to vary greatly in their appearances and themes. Overall what connects them is their messages about AI positivity, Artsync logo, and font choice.

One major concern regarding the use of generative AI is how vague the ethics surrounding this topic can be. When working through this project, ethics have been a topic that I have been taking considerable care working through. One way I have alleviated this is by including a disclaimer on every printed piece of material in the bottom left corner stating "This work was made in part with AI." I wanted to be as transparent as possible for the sake of the viewer and felt it necessary to include that the works included AI imagery, even if it was altered and included my own illustrated elements. This would help to establish trust in the viewer and demonstrate that collaboration between artist and AI was possible.

Another goal of these posters was to reduce fear surrounding AI. The negative stigma surrounding AI often causes young students to dismiss this technology entirely, without attempting to work with it or familiarize themselves with what it can do. As previously discussed in Chapter 2, this fear can be incredibly

damaging to the young designer as it is imperative that they continue to adapt and interact with new tools in order to stay relevant in the creative field. The posters will show that artists and AI can work together to create unique, creative works visually while sporting encouraging messages that urge the viewers to try out what AI can do for them. By creating familiarity, there will be less fear surrounding AI.

The wall design differed from the posters in design, but not theme. This design was more simple, sporting a curved brushstroke covering an expanse of wall with bright, eye-catching text encouraging the user to try AI. The brush stroke contained many colorful AI-generated images that would demonstrate the diversity in generated images. The design was intended to show that artificial intelligence, much like a paintbrush and paints, could be used as an artistic tool to encourage creativity in the artist.

Difficulties

The main challenge of this poster design was incorporating the AI background without having it overpower the foreground. AI-generated images are incredibly detailed. To combat this, the illustrated foreground elements were considerably less detailed, comprising of larger, flatter shapes. To further resolve this competition between the foreground and backgrounds, I added in transparency masks to adjust the color and clarity of each AI background in each poster composition. This continued to bring more attention to the foregrounds while allow the AI-generated backgrounds to remain an integral part of the composition.

The process became much smoother once I began to think of the AI-generated images as stock images. I used them to inspire my compositions, but the images themselves were only part of the overall composition. These pieces, though not hand-drawn by myself, were chosen and used intentionally as a stock image would be. I had the final say as to how they would work within the composition or if I needed to replace them with another image. I was, at first, hesitant to alter the images in ways other than illustrating on top of them. The concern was that they would become so altered it would take away from the idea that they were AI generated. After reevaluating the purpose of this thesis, I determined that I could freely adjust the colors and attributes of these pieces if it meant that the overall composition and message was clearer and more aesthetically pleasing. It would still be a collaboration between myself, the artist, and artificial intelligence which is easily seen throughout the composition as well as the disclaimer on the poster.

Figure: A final design solution made using design software and DALL-E, Bing AI image generator.

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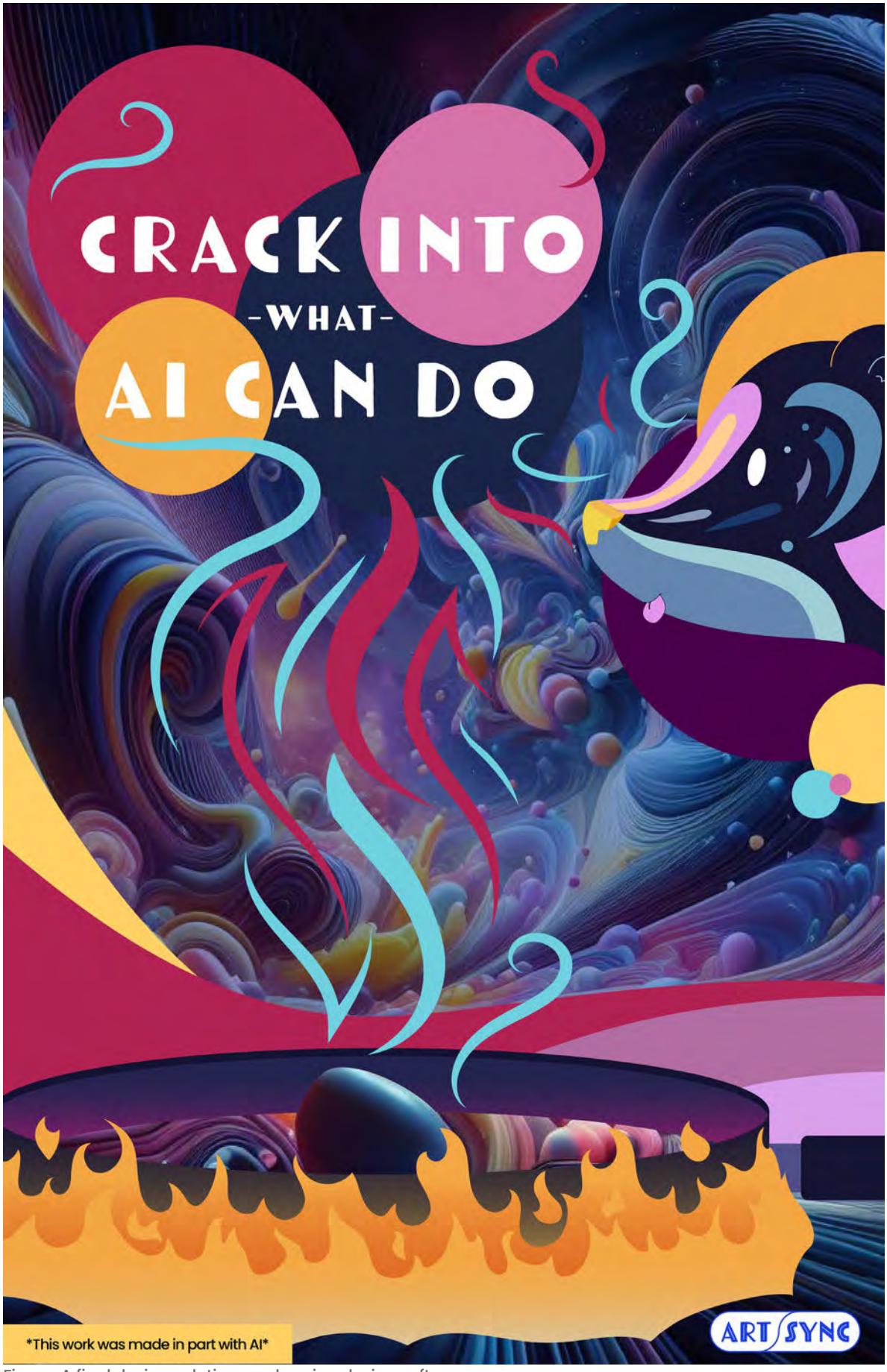

Figure: A final design solution made using design software and DALL-E, Bing AI image generator.

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Mockup Decisions

I have placed each file in a mockup in order to more accurately portray how each piece would be viewed in the environment. I chose mockups that were as close to the real locations as possible. These locations include areas that are highly trafficked by college-aged students such as bus stops and inside of academic buildings.

The wall mockup was intended to be located on, or adjacent to a college campus. This mockup needed to have texture in order to make the design pop. The goal was to have bold, bright strokes of colorful AI-generated imagery popping out from the wall.

Figure: A mock-up final draft made using design software and DALL-E, Bing AI image generator.

Designed by rawpixel.com / Freepik

Figures: A series of mock-up final drafts made using design software and DALL-E, Bing AI image generator

Designed by rawpixel.com / Freepik

Designed by rawpixel.com / Freepik

Figures: A series of mock-up final drafts made using design software and DALL-E, Bing AI image generator

Figure: A mock-up final draft made using design software and DALL-E, Bing AI image generator.

Social Media Posts

The social media aspect of this campaign was conducted over Instagram. It was designed to be a 12-week campaign that would consist of 1 post each week which would total 12 designed posts. This campaign was intended to engage with the college-age demographic.

Before designing, I had to research optimal times for posting. Based on an article from Indeed, the best times to post on Instagram are Monday-Friday from 9 a.m.-12 p.m. Base don this, I had decided to choose post on Tuesdays at 12 p.m. Eastern Time. This would ensure that students in all time zones within the United States, except Alaska, would have the most optimal time to view the post.

Each of the 12 posts contain AI-generated images either in their totality or as part of the composition. The final product consisted of 17 slides for 12 posts. The messages varied from week to week in order to best communicate the message of ArtSync. These posts consisted of material that was educational, inspirational, and promotional in nature. These varied posts would seek to help familiarize the audience with AI through teaching them how to interact with artificial intelligence as artists. This campaign would be a more directional approach to alleviating fear and concern over AI through directly communicating to the audience about what AI is and how they can use it.

To address ethical concerns, I included posts that highlight specific generative AI programs that actively have a code of ethics and take responsibility for the content produced. This demonstrates that there is technology that is responsibly created and maintained with respect to artists. I also included a post that talks about metadata, which is data that is ingrained into a file. In this circumstance, metadata is used to label images as AI-generated. I also included a link that users can use in order to view the metadata on files themselves. This serves as hard evidence that ethical generative AI exists. In addition to this, the resources I provided allow artists to help keep each other accountable when using AI so that every person can be able to enjoy and experiment with this technology in a responsible manner.

Due to the lack of education about generative artificial intelligence, students are often left concerned and confused about how to interact with this technology. In addition to provided information about specific ethical generative AI programs, I also created posts that encourage students to interact with these programs in specific ways. These include artistic challenges that encourage the viewer to take a provided AI image and use it as inspiration in their own works as well as how to use Chat GPT to create creative artistic prompts for creative exercises. These posts foster the ideas that artists can use artificial intelligence as a tool in their workflows in order to benefit them

creatively.

One post I put together was of an AI-generated image with the caption stating that it was the "Weird Prompt of the Week." This concept was to encourage viewers to be creative with their prompts by highlighting a silly prompt that created an image of a salamander playing the banjo. In the post, I highlighted that this image looks pretty good at first glance, but when you pay attention to the details, you can notice that there are certain things that are "off" about it. This includes details such as the odd fingers on the salamander's hand and weird protrusions throughout its body. The post then includes the statement that it would create a great idea image for an artist's own composition. The purpose of this post is to demonstrate that artificially generated images are great ways to compile fun, creative images from prompts but still are not perfect. Though these images are exciting to look at, it is very clear that they are AI generated and lack the same amount of care and detail that a human artist could put into a work, reaffirming the need for human artists.

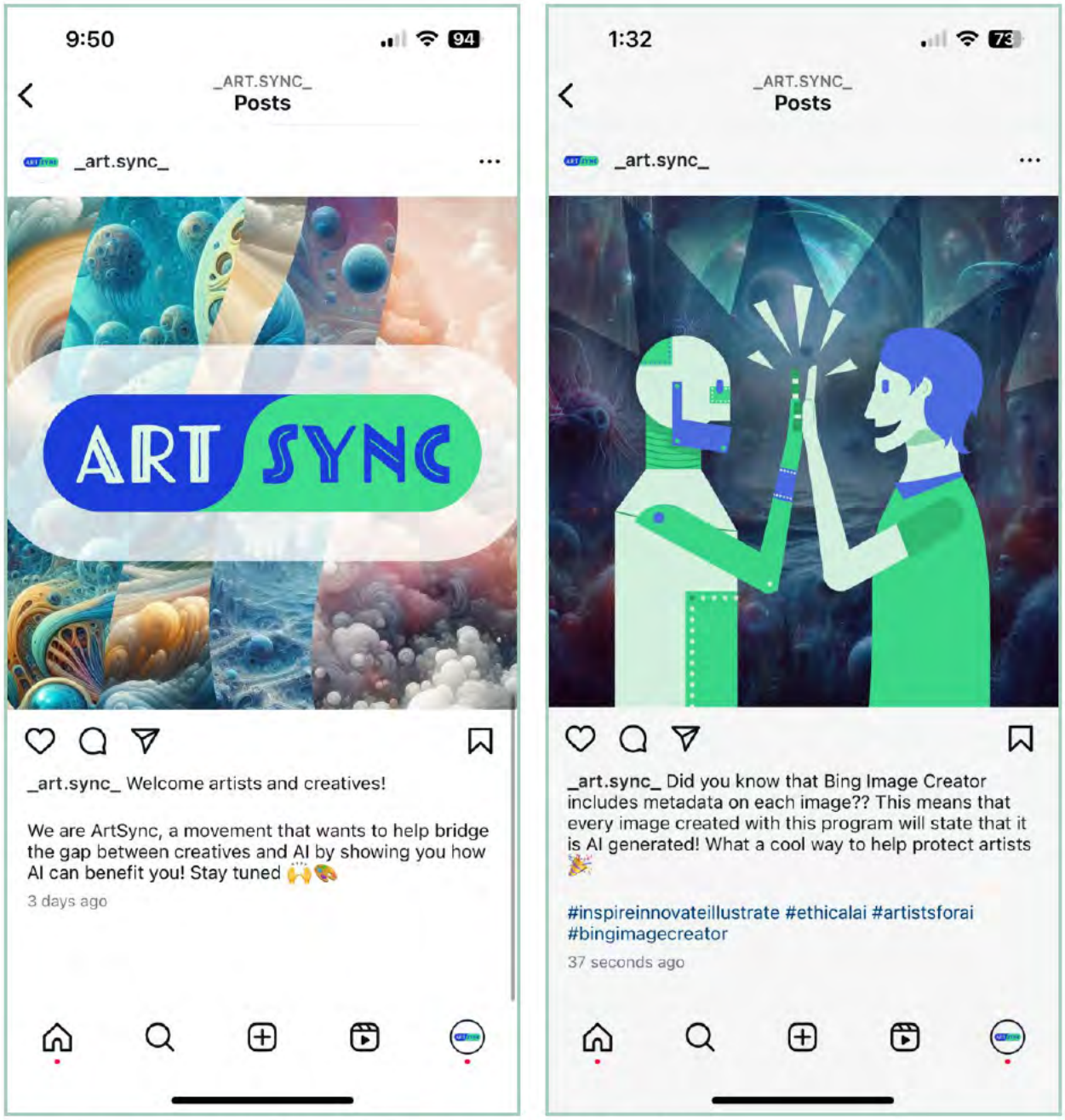
Difficulties

One of the main difficulties with the social media aspect of this project was engagement. Due to the short amount of time available to work though this campaign, I was not able to stretch the posts out through 12 weeks. This campaign had to be rushed through in about 2 weeks in order to have the project posted and available with the time allotted. As of the time of this writing, there has been no engagement with any of the posts.

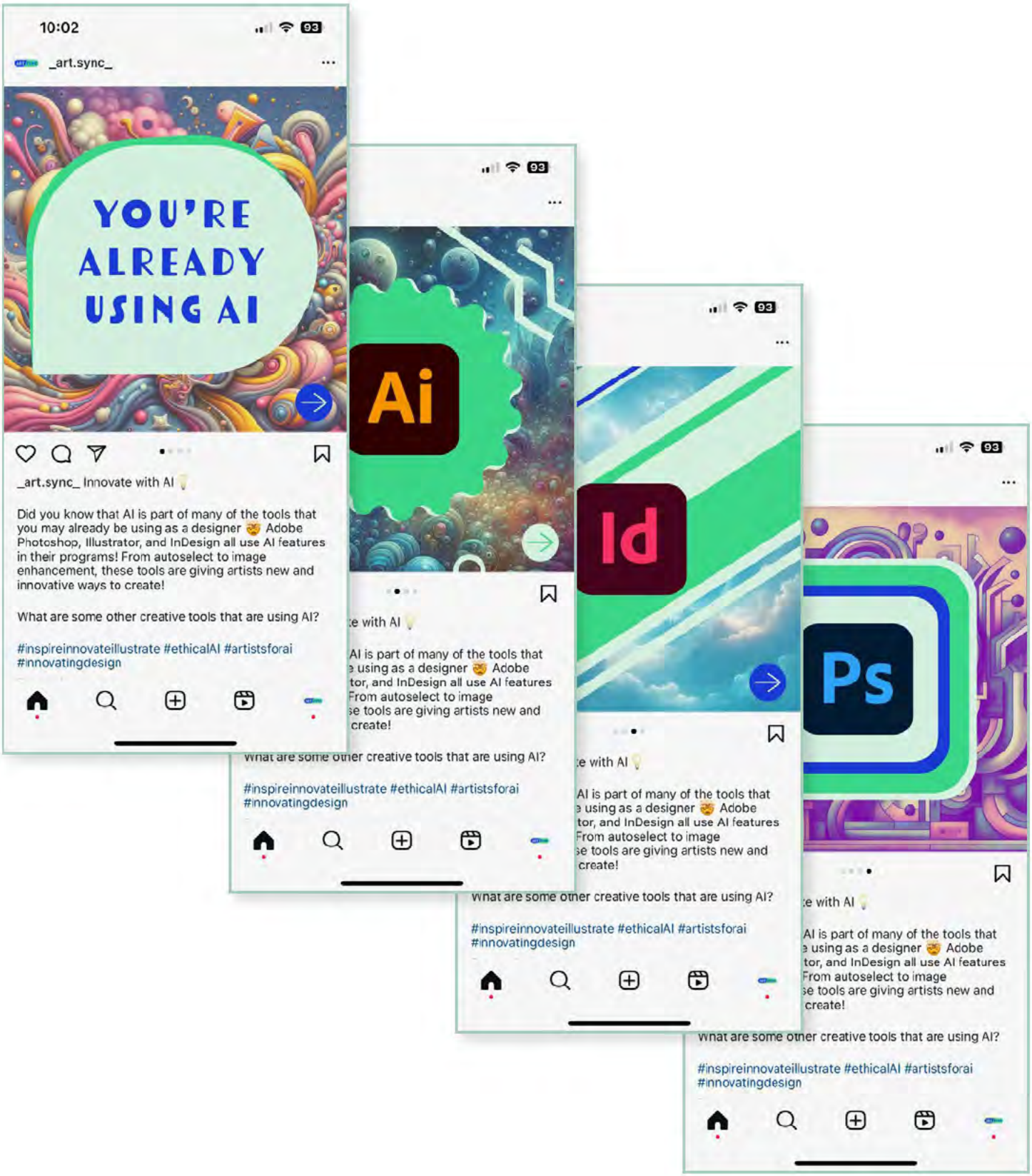
This could be due to several factors. One of these factors is the lack of time to post. This caused the campaign to be posted all at once as opposed to stretched out over the course of the 12 weeks. This time would have allowed the social media account to gain traction through time. In addition, this account follows a limited number of other accounts. If there were more time to plan, I would have curated a group of art accounts that would cater to my demographic for ArtSync to follow. This would then cause the ArtSync account to be suggested to those users due to its creative content, thus giving it more opportunity for public engagement.

Unfortunately with social media, there is never a guarantee that an account will become popular or well-known. Part of this is due to the structure of the campaign while the other factor is luck.

If this campaign had the full 12 weeks to post, I would have taken more care to set up this account through following similar accounts, posting public stories, and spreading out the posting schedule to a more reasonable timeline.



Figures: A series of social media posts made using design software and DALL-E, Bing AI image generator, posted on Instagram



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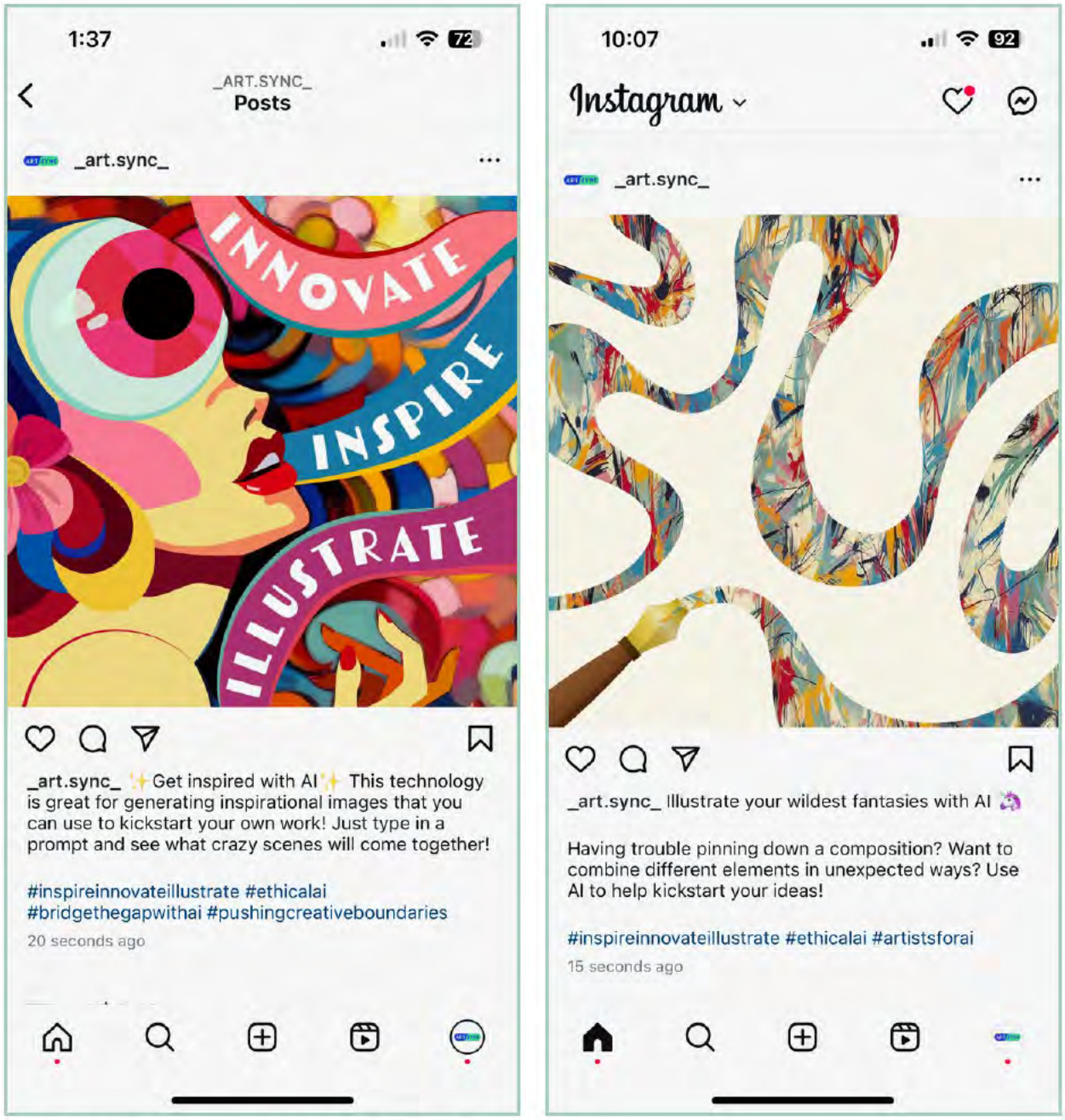

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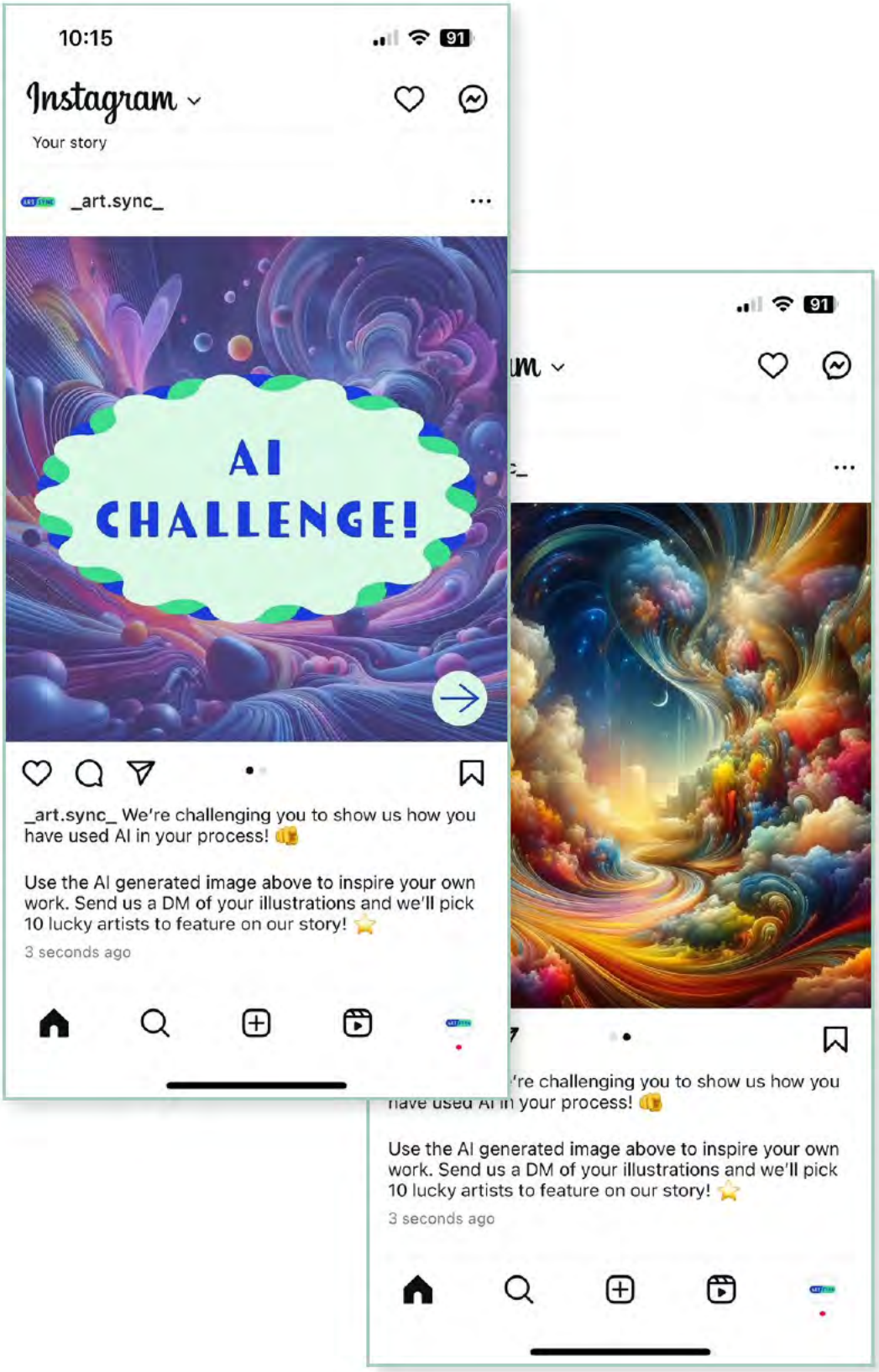

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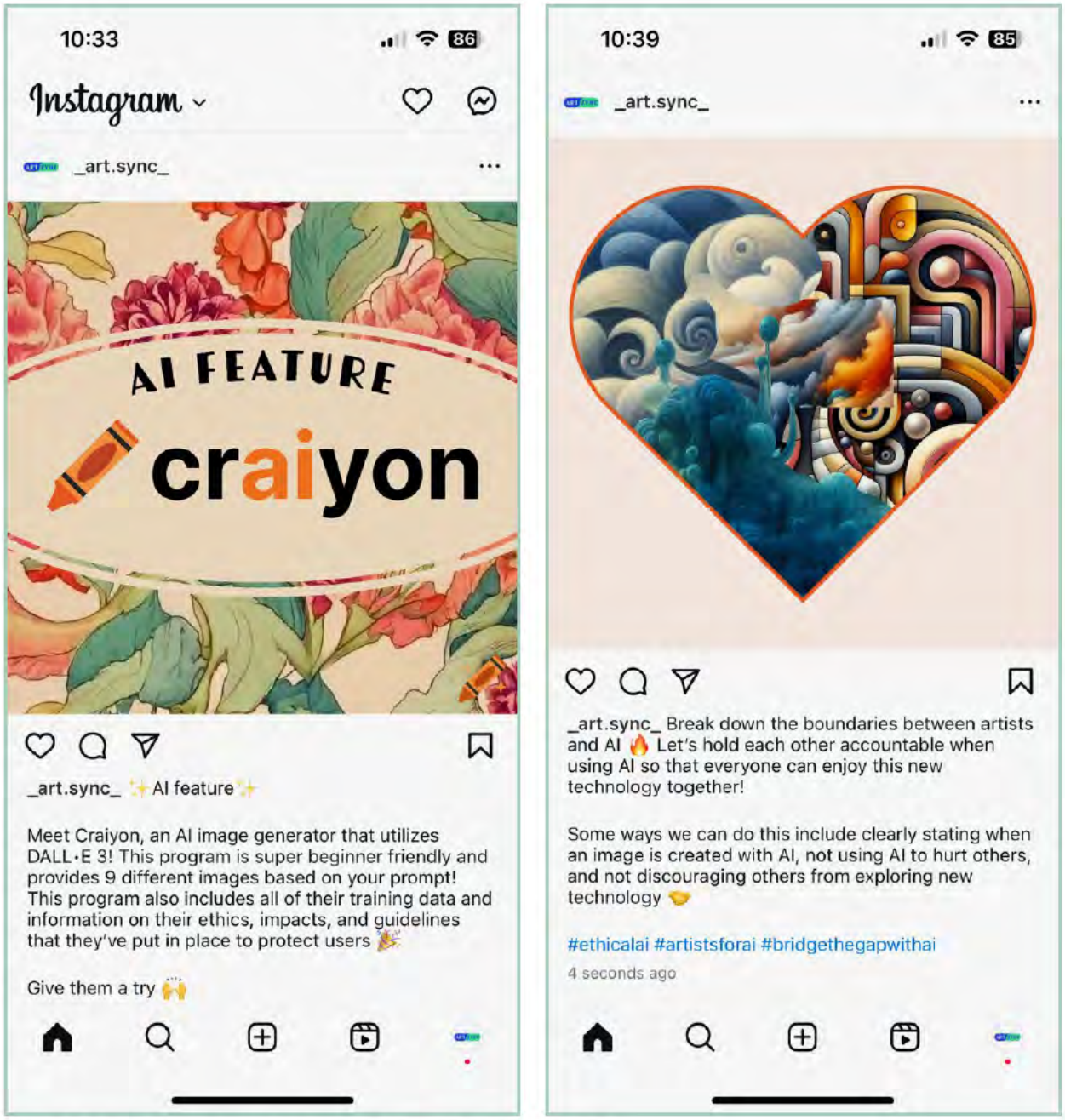

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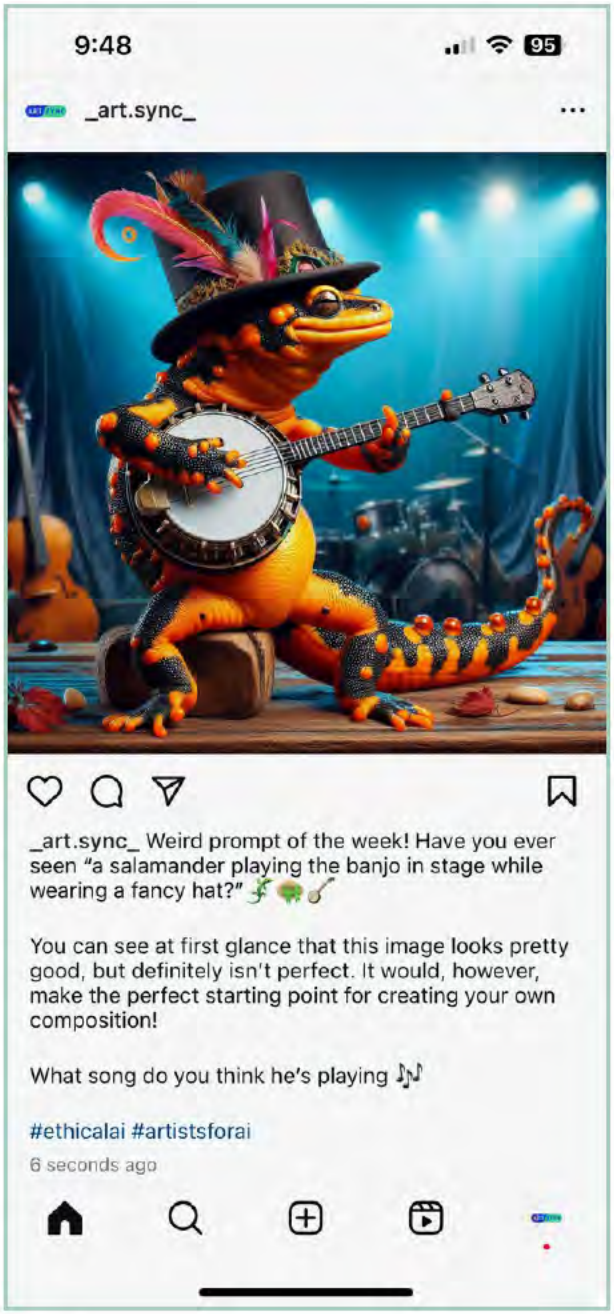

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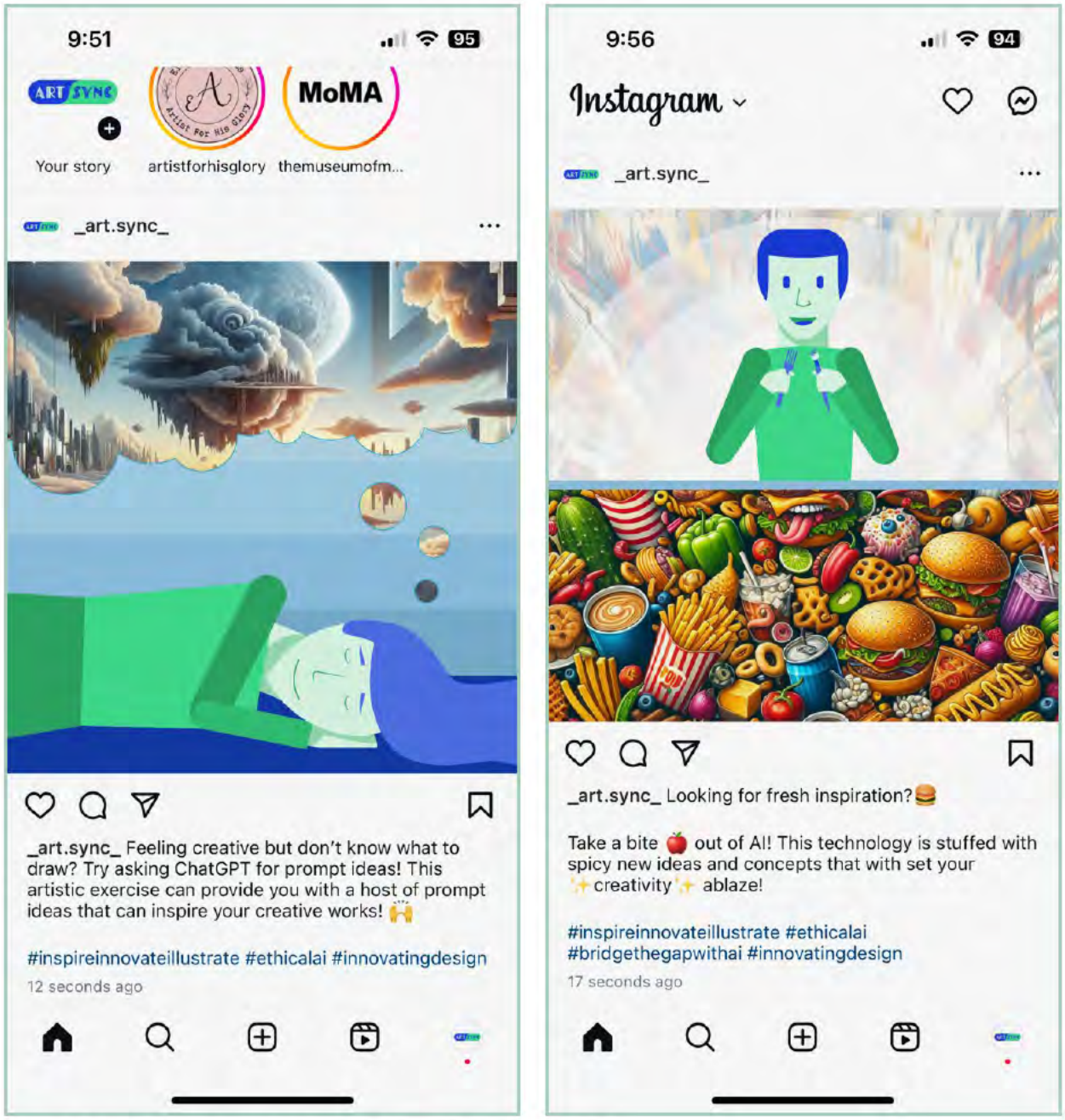

Figures: A series of social media posts made using design software and DALL-E, Bing AI image generator, posted on Instagram

Chapter 5

Artificial intelligence is exciting new technology that is quickly becoming an integral part of society. As it further integrates into the lives of everyone, designers and creatives find themselves struggling with how this technology will affect them. Generative AI, though promising in its creative potential, creates a point of strife in designers, leaving them concerned that their jobs would become obsolete with AI's integration. This is especially true in younger, upcoming graphic designers who lack the training and knowledge about artificial intelligence. This project seeks to help close this gap between artists and AI through making artificial intelligence more familiar to the viewer through encouragement, education, and advice on what this technology does and how artists can interact with it.

Through extensive research on artificial intelligence, it was discovered that this technology is not nearly as new as it is believed to be. AI has been in development since the 1940s and has only continued to advance and become further integrated into society. Many people use AI daily without realizing it. The move to include generative AI into the creative field is not unwarranted, especially given the technologically involved nature of the design field. Its rapid integration into the creative field, however, has not given enough time for educational programs to catch up. This has led to the alienation of this technology by creatives before they have a chance to be taught what it can do, or how to use it responsibly. Creating classes geared toward new technology, or including units on AI within design courses has the potential to aid in bridging this knowledge gap as well as aiding them in using artificial intelligence in a way that is transparent and responsible, such as teaching about metadata and how it can aid in ethical use of AI.

Unbeknownst to some creatives, the technical tools they use daily may already using artificial intelligence to aid in carrying out simple functions. The Adobe Creative suite has long since introduced AI into their tool set. Photoshop, for example, utilizes a direct selection tool. This tool can identify and select a subject within the composition. AI is used in order to help identify what is to be selected. Without this AI tool, a user of Photoshop would have to painstakingly select their subject by hand through tracing. The direct selection tool instead gives the user a quicker, easier way to perform the function through the aid of AI. In Adobe Illustrator the image trace tool also utilizes AI to quickly vectorize a raster image

in order to give the creative the ability to create manipulatable vector works from hand-rendered or digitally drawn imagery. These tools both use artificial intelligence to aid the designer in performing functions more efficiently than if they had to work through the task manually.

Though still in its infancy, generative artificial intelligence has an incredible amount of potential to act as a creative tool, but without proper education and information on this technology, students are hesitant to use it. Through this social media campaign, I have provided information to my audience on different ways that they can engage with this technology and use it in their own processes, from providing fun artistic challenges with AI, to encouraging the audience to engage with text-bots, such as ChatGPT, in order to receive unexpected prompts for their artworks. Though some of my audience may still be unwilling to use these programs due to the idea that generative artificial intelligence is unethical and harmful to artists.

The ethics surrounding artificial intelligence are currently vague due to its newness. Proper use of this technology is still being established which causes different programs to put forth different codes of conduct and rules on what can be created with their technology. This discussion on lack of ethics causes many creatives to band against all generative artificial intelligence without doing proper research. This campaign has sought to present information about specific generative AI programs that are working diligently to provide ethical, responsible content that protects artists, users, and individuals through including metadata, transparency about their training programs, and strict codes of conduct for use. In addition to this information, I have provided additional information to show users how to keep each other accountable when using artificial intelligence. By providing this information, I am giving viewers researched information that shows the steps that are being taken to protect creatives so that every person can freely use and enjoy generative AI.

As this technology continually develops, the conversations and decisions regarding AI's use and impacts within the creative field will only continue to grow. Because of this, this research can only anticipate the possible future effects of this technology based on preexisting trends and current knowledge of what AI is and how it works. It is a technology that is already widespread in other fields and will continue to impact the creative field. One way to work toward ethical decisions is for creatives across multiple fields to connect and work toward solutions regarding AI's place in the creative field. Discussions on the topic of copyright and who can claim AI work is one facet of this grey area of ethics where creatives are unsure who can claim the work and if it can be used in a professional capacity. By creating a group dialogue, scattered

voices about the positives and negatives can become one conversation working toward a future where creatives have creative reign over good design solutions regardless if the field is graphic design, computer animation, or photography.

The fear surrounding the use of AI leads back to the idea that it can take the jobs of creatives. This is a common concern any time new technology is introduced into society. As discussed in Chapter 2, the Industrial Revolution is a past example of this societal fear of machines. Though machines did not replace jobs, it did change them, making assembly lines safer and more productive while allowing the workers to have higher paying, sight overseeing jobs. In more recent years, there was major discourse between studio and digital artists, with the former dismissing the latter as "cheating" with the digital tools that they are given. In reality, digital art can be viewed as just another medium which artists can use to express their creativity. Painting in a studio requires knowledge on how to mix colors based on what is provided in a tube, how the paint textures interact, and what brushes to use in order to achieve the best effects. These are all very physical artistic skills that a creative must learn in order to be successful in their creative goals. In a digital setting, the user must learn how to properly use brushes, erasers, and blending tools in a digital space. Without physical texture, the digital artist must learn how to create texture artificially. Both studio and digital creative tools require different sets of skills to execute, which is why it is always beneficial for creatives to test out a variety of tools in order to test what works best for them and their creative processes. In addition to this, there is also a place for each medium to fit into as well as the ability to use them in tandem. If a graphic artist is required to make a logo. Then digital tools will be necessary to use, even if the logo is hand-rendered first. This same struggle was fought over the introduction of film productions. Film movies were thought to be a threat to the jobs of stage and theater actors, potentially ruining their jobs and taking the public's attention away from stage theaters in favor of on-screen productions. In reality, stage actors found a new audience with work behind the camera, taking their stage presence onto the big screen and allowing for new kinds of stories to take place that would not be possible over a stage. There was also concern that digital photography would ruin the art of photography with cameras being readily available for nay member of the public to use. Professional photographers held concern that the public would no longer have need for photographers with every person having a camera in their pocket and having easy access to photo-editing software at their fingertips. The need for photographers was not diminished, however. The common person may have had a camera, but they lacked the technical and artistic knowledge required to take

professional-quality photographs. If the public truly had threatened professional photographers' jobs, there would be no need for jobs such as wedding photographers and videographers or marketing photographers. Professional photographers also benefit from these tools as they can more easily work through hundreds of photo edits in a fraction of the time as well as be able to more accurately turn their cameras to capture the exact shot they envision. All of these technical advances have been considered threats to the respective professions that they are a part of. Though they may have altered the jobs, it has not reduced the need for them. These programs and pieces of technology have proved to be more beneficial in the long-term than harmful to the creatives that interact with them. This is comparable to the scrutiny that generative AI is facing. Creatives see this technology on the surface-level as being destructive to artists and being a way to "cheat" creativity instead of seeing it as a new medium which has the potential to aid artists.

Artificial Intelligence is another tool that creatives can work with in their creative processes. This technology can create a wide variety of visually interesting works very quickly, but they are not perfect and hold less value than their human-made counterparts. This medium is different from other tools that creatives generally use and requires new skills in order to properly utilize. Prompt engineering is a one example of these new skills that is needed to be learned in order to effectively operate generative AI programs to ensure that the resulting images fit within the criteria provided. Even then, there is no guarantee that the images generated will match exactly what the artist has in mind for use. This is why this technology serves a better purpose as conceptual pieces that can be used as inspiration, rather than as a finished product. Within the social media campaign, I highlighted an image that was generated using a silly prompt. This was meant to demonstrate that though you can use this technology to create crazy, exciting images, they are not perfect results. These images could be a great starting point as a reference for an artist's own composition as opposed to a completed, publishable piece. It also serves as a demonstration that artificial intelligence is a tool as opposed to a competitor.

The creative field has been heavily intertwined with technology ever since the invention of the computer. It has provided many tools that are now integral to the design field including programs such as the Adobe Creative Suite and new ways to structure and print finished materials. With the rapid evolution of technology, it is integral for a designer to be able to adapt to upcoming technology and resources in order to stay current in the field. Refusing to use or acknowledge big technological movements can act as a detriment for the designer. With AI al-

ready affecting many of the design fields, including fashion, photography, and studio arts, avoiding it is becoming increasingly difficult. This could become a hindrance to the designer as they would be barring themselves from the opportunity to further streamline their workflow and give themselves access to new tools that have the potential to reshape how we design. This campaign demonstrates successful collaboration between AI works and artists through the designed posters, which include both AI and human created work, as well as through the social media campaign which is a collaboration on a more simplified scale. The viewer can see what AI can do for them as a tool.

The ArtSync campaign serves to bridge the gap between artists and artificial intelligence through breaking down the ways that AI can benefit them. To alleviate fear of this technology, an encouraging tone is used, prompting users to experiment with this technology in different ways. To further aid in working through this discomfort with AI, real-life examples of generative artificial intelligence programs are used to demonstrate the ways that companies are doing their best to protect artists and hold themselves accountable for their content. These are necessary steps that are needing to be taken in order for artists to trust this technology and begin to use it in their own works. ArtSync was developed in a way that would specifically cater to young graphic designers from its youthful, exciting aesthetics to its intentional design placement on college campuses and Instagram. Being one of the only campaigns of its kind, ArtSync makes an important contribution to mending the relationship between artificial intelligence and graphic designers.

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