

DEVELOPMENT OF COLOUR ROUGH THROUGH ARTIFICIAL INTELLIGENCE AIDED MEDIUM IN PAINTING

By

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Abstract

This paper emphasizes the integration of artificial intelligence as a process that aids the development of colour rough in painting. A rough colour in painting is perceived as a sketch in pen or colour that can guide a painter or artist to produce an artwork. The invention and introduction of the artificial intelligence aided platform to produce artworks, especially in painting, is affecting the sales of some paintings because some patrons prefer to go online using the artificial intelligence platform to produce their painting. This act involves patronizing original paintings produced by painters with their oil on canvas, as the case may be. Therefore, to remedy the situation and to ensure those painters will not be discouraged from remaining in their practice, the artificial intelligence platform can aid painters in developing ideas and concepts for them to produce their paintings by using it to build colour roughs. Thus, to achieve the aim and objectives of this study, the paper discusses what artificial intelligence (AI) is, the concept of colour rough, and how artificial intelligence can be used to develop colour rough, among others. The paper, having reviewed cognate literature on the topic, obtained that artificial intelligence can be used to develop colour rough. Therefore, concludes that artificial intelligence is a viable computerized platform that can aid in producing a rough colour of the intended artwork and produce thereafter. Thus, after considering the effectiveness of artificial intelligence in developing colour rough, the paper recommends that painters not see the introduction and invention of artificial intelligence as a challenge but as a medium that can be employed to enhance their creative ingenuity.

Keywords: Development, colour rough, artificial intelligence, painting.

Introduction

In today's fast-paced digital world, the importance and use of artificial intelligence in producing and designing colour rough development as a guide to produce painting cannot be overstated. It helps to bridge the gap between abstract ideas and real-world solutions, turning concepts into tangible experiences. Whether in the visual arts you're developing or producing painting, sculpture, ceramics, or other physical products, a well-designed colour rough is the blueprint for a successful painting or artwork. Painting, an art form that has captivated humanity for centuries, allows artists to bring their creativity to life in a two-dimensional form. From the days of cave art, paintings have had the power to evoke emotions and tell stories like no other medium. However, the painting process is complex and intricate, requiring careful planning and execution.

One essential step in the production of a painting is the development of a colour rough. A colour rough is a preliminary model that helps the painter visualize and refine their design before committing to the final piece. According to Graffiti (2017), A "colour rough" is a smaller-sized coloured work to get an idea of colour balance, layout, etc, in a picture project. Ejsing (2010) states that colour rough takes out all the stress and the "afraid of too much colour" feeling while producing the authentic or original painting work. Put, colour rough, or colour study, in painting is a small, preliminary sketch or painting that artists use to plan the colours and overall colour scheme for their final artwork. It helps artists experiment with different colour combinations, values, and intensities before committing to them in the final piece. Colour roughs are a valuable tool for artists to explore and refine their ideas before creating a more detailed and finished work of art.

In this paper, the focus explored why using artificial intelligence to create a colour rough is essential in painting production and how it can benefit painters in bringing their vision to life. Producing a painting is not merely about whimsical inspiration and headfirst diving into the painting process. It requires thoughtful consideration and planning to ensure the final piece meets the painter's vision. This is where the importance of artificial intelligence guided colour rough comes into play as a guide. Because colour rough allows painters to test their ideas, refine their design and proportions, and identify any challenges or limitations they may encounter in producing a painting.

Artificial intelligence is the simulation of human intelligence processes by machines, especially computer systems. Examples of AI applications include expert systems, natural language processing (NLP), speech recognition, and machine vision (Craig, 2024). Artificial intelligence (AI)-aided colour roughs in painting refer to using artificial intelligence tools to assist artists in creating preliminary colour layouts or "roughs" for their artwork. These roughs are typically the early stages of a painting or illustration, helping to establish the colour palette, mood, and general composition before the artist finalizes the details. According to Staff (2004), artificial intelligence (AI) refers to computer systems capable of performing complex tasks that historically only a human could do, such as reasoning, making decisions, or solving problems. Today, AI describes a wide range of technologies that power many of the services and goods we use daily – from apps that recommend TV shows to chatbots that provide customer support in real time. In this regard, visual art is not left out because artificial intelligence, over time, has also been used to produce paintings and other forms of artwork. Baxter (2024) explained that artificial intelligence is being used to generate paintings, images, and even sculptures, with some selling for thousands of dollars. It relates to this paper, which focuses on

how artificial intelligence is used to aid the development of colour roughs for painters. It is a fact that artificial intelligence is one of the fastest means of developing colour rough for painters. This is because artificial intelligence produces colour rough for painters to work with or produce their paintings in just a few minutes.

An Overview of Colour Rough Development in Painting

The term "colour rough" typically refers to a preliminary version of a colour composition or design, often used in visual arts, animation, or graphic design. It's a draft or sketch where the artist applies basic colours to understand the overall tone and mood, usually before finalizing the artwork with refined details and shading. Muddycolour (2024) States that a colour rough is a document artists use to experiment with colour palettes. It can be done on a print of an original drawing. Understandably, colour rough is using colour to experiment to achieve a desired painting. The essence of experimenting or first making a colour rough before producing the original painting is to use the produced rough colour as a guide while creating the original painting work. Over the years, many painters have liked to produce colour rough of their paintings before going into production of their painting. Most importantly, the outcome of their paintings when they use colour rough as a guide is prodigious and commendable.

The practice of creating colour roughs or colour studies in painting can be traced back to various periods throughout art history. Artists have long used preliminary sketches, studies, and compositional layouts to plan their artworks, with colour studies being an integral part of this process. One notable period where the development of colour roughs became more prominent was during the Impressionist movement of the 19th century. Artists such as Claude Monet,

Pierre-Auguste Renoir, and Edgar Degas were known for their innovative use of colour and light in their paintings. They often created quick oil sketches or studies to capture the fleeting effects of light and colour in different settings. The concept of colour theory and its application in painting also gained prominence during the 19th century, with artists like Eugene Delacroix and Georges Seurat exploring the scientific principles of colour and how colours interact.

While the specific origin of colour roughs may be difficult to pinpoint to a single time or artist, it is clear that artists have used the practice for centuries to plan, experiment, and refine their use of colour in painting. Today, creating colour roughs remains a valuable tool for artists looking to enhance their understanding of colour and improve the overall impact of their artworks.

Developing a colour rough in painting offers artists a range of benefits, from planning and efficiency to experimentation and skill development. It is a valuable step in the painting process that can enhance the quality and impact of the final artwork. Muddycolour (2024) also outlined the following as the purpose and benefits that can be derived from using colour rough in painting:

Purpose of colour roughs

- Decision making: Colour roughs help artists decide on colour schemes.
- Stress relief: Colour roughs can help artists relax and remove stress from their creative process.
- Building up to bolder choices: Colour roughs allow artists to try different colour palettes and build up to bolder choices.

Benefits of colour roughs

- Artists can print a new version if they make a mistake.
- Colours can set the mood and tell a story.
- Colour roughs can help artists try different colour palettes.
- Developing a colour rough or colour study before starting a painting can offer several benefits to artists:

1. Planning and Visualization: Creating a rough colour scheme allows the artist to plan out the colour scheme and composition of the painting before committing to the final piece. It helps the artist visualize how different colours interact and work together in the artwork.

2. Efficiency: Spending time on a colour rough can save time in the long run by helping artists identify potential issues with the colour palette early on. It can prevent the need for significant colour revisions later in the painting process.

3. Experimentation: A colour rough allows artists to experiment with different colour combinations, contrasts, and harmonies without the pressure of working on the final piece. It encourages creative exploration and risk-taking.

4. Decision-making: By creating a colour rough, artists can make informed decisions about the colours, values, and mood of the painting. This helps them make conscious choices about the colour palette that best conveys the intended message or emotion.

5. Communication: Colour roughs can help communicate ideas with clients, collaborators, or instructors. They clearly represent the artist's vision for the painting and facilitate effective feedback and discussion.

6. Skill Development: Practicing colour studies can help artists improve their knowledge

of colour theory, colour mixing skills, and understanding of light and shadow. It is a valuable exercise for honing one's artistic abilities.

Brief Discourse on Artificial Intelligence

Artificial intelligence, as it relates to its meaning or definition, has given many scholars divergent views on it, but notably, all their opinions point to the fact that it is a computer system capable of performing tasks. According to Google Cloud (2024), artificial intelligence (AI) is a set of technologies that enable computers to perform various advanced functions, including seeing, understanding, and translating spoken and written language, analyzing data, making recommendations, and more. Google Cloud (2024) AI is the backbone of innovation in modern computing, unlocking value for individuals and businesses. For example, optical character recognition (OCR) uses AI to extract text and data from images and documents, turns unstructured content into business-ready structured data, and unlocks valuable insights. Artificial intelligence (AI) is a wide-ranging tool that enables people to rethink how we integrate information, analyze data, and use the resulting insights to improve decision-making. Already, it is transforming every walk of life. (West and Allen, 2018)

Google Cloud (2024) also views artificial intelligence as a field of science concerned with building computers and machines that can reason, learn, and act in a way that would typically require human intelligence or involve data whose scale exceeds what humans can analyze. AI is a broad field that encompasses many different disciplines, including computer science, data analytics and statistics, hardware and software engineering, linguistics, neuroscience, and even philosophy and psychology. On an operational level for business use, AI is a set of technologies based primarily on machine learning and deep learning, used for data analytics, predictions and

forecasting, object categorization, natural language processing, recommendations, intelligent data retrieval, and more.

Staff (2024), while focusing on the functionality of artificial intelligence (AI), points out it is the theory and development of computer systems capable of performing tasks that historically required human intelligence, such as recognizing speech, making decisions, and identifying patterns. AI is an umbrella term encompassing various technologies, including machine learning, deep learning, and natural language processing (NLP). Although the term is commonly used to describe a range of different technologies today, many disagree on whether these constitute artificial intelligence. Instead, some argue that much of the technology used in the real world today constitutes highly advanced machine learning that is simply a first step towards accurate artificial intelligence, or “general artificial intelligence” (GAI). Yet, despite the many philosophical disagreements over whether “true” intelligent machines exist, when most people use the term AI today, they’re referring to a suite of machine learning-powered technologies, such as Chat GPT or computer vision, that enable machines to perform tasks that previously only humans can do like generating written content, steering a car, or analyzing data.

In Nigeria, there is no doubt that the impact, effective and overwhelming awareness of artificial intelligence (AI) became more prominent during COVID-19. Its applications have helped many people in their businesses and other functions. Adisa (2023) avers that the Covid-19 pandemic revealed how crucial technology has become in today's world. Notably, artificial intelligence (AI) has dominated conversations in every sphere, becoming the focus of tech companies globally. The surge in interest in AI can be traced to advances in computing power and the availability of large datasets. AI is now used to solve some of the world’s most challenging problems, such as developing new drugs, diagnosing diseases, and creating self-driving cars.

Industries have recognized the transformative power of AI, leading to its expansion and massive development.

Adisa (2023) adds that AI was primarily an emerging field with limited applications in Nigeria. However, with the rise of global AI advancements and the recognition of its transformative power, Nigeria began to witness a shift in mindset. Entrepreneurs, researchers, and policymakers started exploring the possibilities AI could offer in addressing local needs and driving economic growth. One of the key drivers behind the evolution of AI in Nigeria has been the concerted efforts of government and educational institutions. Recognizing the importance of AI for national development, the Nigerian government has taken steps to foster innovation and create an enabling environment for AI research and development. Initiatives such as the National Centre for Artificial Intelligence and Robotics have been established to provide support and resources for AI-driven projects. Adisa (2023) further stresses that universities and research institutions have simultaneously been at the forefront of AI education and research. Institutions like the African University of Science and Technology and Covenant University have established AI-focused departments and research centers, nurturing a new generation of AI talents. These educational initiatives have been crucial in building a strong foundation for AI expertise in Nigeria.

Development of Colour Rough through Artificial Intelligence Aided Medium in Painting

In the area of visual art practice, the invention of artificial intelligence has contributed immensely and has also played a very significant role in the production of artworks or in guiding the process of producing artworks. It makes the artist's work easy, especially when composing items for painting production. Otherwise, it has helped the painter easily achieve their colour

palette. This is true because the painting produced using artificial intelligence enabled them to know their colour palette. Developing a colour palette before embarking on the production of a painting is novel because it allows the painter to produce a well colour, proportioned, and composed painting that will be admirable to many. The usefulness of colour rough in guiding painters to create their painting can never be underestimated. Artificial intelligence must make it even easier for painters to use in this era. Painters are encouraged learning the skill and apply it to make the production of their painting not unique but also in conformity with the elements and principles of art that guide the production of artworks. Below is a process that painters can use to achieve the development of colour rough using artificial intelligence (AI):

1. **Palette Suggestions:** AI tools can analyze existing artworks or photos and suggest colour palettes based on mood, lighting, or artistic style. This can help artists explore new colour combinations or variations they might not have considered.
2. **Quick Prototyping:** Artists can input basic shapes, compositions, or sketches into AI programs, generating a rough colour version of the artwork. This allows the artist to visualize how the piece might look with specific colour schemes, saving time during the ideation process.
3. **Tone & Lighting Guidance:** AI can also assist in determining the correct lighting and shading to match a desired tone. It can adjust the light source, contrast, and colour temperature, allowing the artist to see how these changes will affect the overall feel of the piece.
4. **Style Simulation:** Some AI tools allow you to apply specific styles to rough colour compositions—an oil painting effect, watercolour wash, or digital art style. This helps

artists experiment with different artistic approaches without manually recreating each style.

5. **Learning and Refinement:** As artists use these tools, they can fine-tune their work. The AI learns their preferences and can help predict the next step in the artistic process, speeding up iterative design stages.
6. **Inspiration and Iteration:** AI can generate multiple variations of colour roughs based on a single prompt. This gives artists a wide range of possibilities, making it easier to decide on a direction and refine the work.

However, it's important to remember that AI is not a replacement for the artist's vision or creativity. The human touch, intuition, and interpretation still play a key role. AI is more of an assistant or collaborator in the creative process, enabling artists to explore and expand their ideas quickly and efficiently.

Using artificial intelligence to create paintings has become increasingly popular in recent years. AI algorithms can analyze patterns, styles, and techniques from vast amounts of existing artwork and generate new pieces based on this analysis. While the results can be impressive and sometimes even indistinguishable from works created by humans, the effectiveness of AI in producing paintings ultimately depends on various factors:

1. **Creativity:** AI can mimic artistic styles and techniques but lacks the creativity and emotional depth that human artists bring to their work. This may result in AI-generated paintings lacking in originality or depth.

2. **Feedback and Iteration:** AI systems can improve over time with feedback and iterations. Training the algorithms with more data and refining their processes can enhance the quality of the generated paintings.
3. **Speed and Efficiency:** AI can produce paintings rapidly and efficiently, which can help generate a large volume of artwork quickly. This can benefit artists looking to explore different ideas or experiment with styles.
4. **Exploration and Inspiration:** AI-generated art can inspire artists and viewers. It can introduce new artistic styles, techniques, and possibilities that may not have been considered otherwise.
5. **Ethical Considerations:** There are ethical considerations surrounding the use of AI in art, such as intellectual property issues, artist attribution, and the potential devaluing of human creativity and labour.

Challenges of AI in the Production of Colour Rough and Artworks

The effectiveness of using artificial intelligence to produce paintings can be judged based on the context and goals of the creator. While AI can offer unique opportunities and benefits in art, it is essential to consider its limitations and implications when integrating it into artistic practices. The concept of AI cannot be discussed without considering the risks associated, such as consumer privacy, biased programming, and danger to humanity. Muddy colour (2024) that artificial intelligence AI is eroding originality and innovative practical artworks produced by artist themselves in their studio.

Conclusion

In conclusion, while the development of AI comes with challenges and risks, its advantages make it a worthy pursuit. Increased efficiency, improved decision-making, personalized experiences, and the potential to address societal challenges are just a few of AI's benefits, among its contributions and benefits in enhancing development. The idea of using it in developing colour rough can not be overemphasized because of its role in aiding painters in producing their paintings in this era where innovative painting experimentation and exploration has become the order of the day in artwork production.

Adopting AI in the development of colour rough helps address issues of choice of colour, proportion, balance, and rhythm, among others. Focusing on the viability of AI in artwork production, it is imperative to understand that we can unlock its full potential and create a future where AI is a force for good, driving progress and improving the lives of people worldwide using AI-developed colour rough as part of the fundamentals.

Recommendations

The paper has not obtained the viability of artificial intelligence in developing colour rough to produce painting. The paper made the following recommendations:

1. Painters should endeavour to explore the AI to develop colour rough that will guide them to produce their painting.
2. Painters should not perceive AI invention as a challenge to their practice but rather see it as a means to enhance the production of their paintings.
3. Art connoisseurs, patrons, or collectors should not prefer to patronize AI-developed colour rough paintings more than the original paintings produced by painters.

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