

Pharaoh by artificial intelligence, Historical mistakes with a beautiful artistic vision

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Abstract:

In today's digital age, the power of artificial intelligence (AI) is continually expanding its reach, revolutionizing various aspects of our lives. AI has brought innovation to the world of image generation, making it easier and more accessible than ever before, but here we would like to focus on some historical mistakes that is not been considered in the current audit stages so we can be able to help improving the accurate final result. In recent years, the field of artificial intelligence has witnessed significant advancements in generating and manipulating visual content. One prominent area of development within this domain is AI image generators, These generators hold immense potential across diverse applications, revolutionizing industries such as advertising, entertainment, and digital art creation. As artificial intelligence continues to evolve, its ability to generate and manipulate images has reached remarkable levels of sophistication. However, alongside their impressive capabilities, AI image generators are also prone to making intriguing and sometimes puzzling mistakes. These errors can range from minor imperfections to profound distortions, raising important questions about the limitations and ethical implications of AI in visual content creation. Understanding these mistakes not only sheds light on the underlying algorithms and processes but also prompts critical reflections on the broader implications of relying on AI for creative and practical applications. This research aims to explore and analyze the nature, causes, and consequences of mistakes made by AI image generators, offering insights into their development, usability, societal impact, and how can ideas be proposed to support artificial intelligence thinking to extract historically correct images through an open source of information for experts everywhere, regardless of their specializations.

Keywords:

Artificial Intelligence,
Pharaoh, Costume,
Modern, Egypt,
Historical

Paper received May 09, 2024, Accepted August 01, 2024, Published on line September 1, 2024

The Research Problem:

The rapid advancement of AI image generators has sparked significant interest and investment across various industries. However, alongside their transformative potential, these systems are known to exhibit errors and anomalies that can undermine their reliability and usability. Understanding the nature and implications of these mistakes is crucial for several reasons:

1. Reliability and Trustworthiness: AI image generators are susceptible to producing misleading or inaccurate images, which raises concerns about their reliability in practical applications such as medical imaging, autonomous vehicles, and surveillance systems.
2. Ethical and Social Implications: Errors in AI-generated images can perpetuate biases, reinforce stereotypes, or inadvertently create harmful content, posing ethical challenges in fields like advertising, journalism, and social media.
3. Impact on Creativity and Innovation: Mistakes in AI image generation may limit the creativity and innovation potential of these technologies, hindering their ability to push artistic boundaries and explore new visual styles.
4. Technical Limitations and Development Challenges: Understanding the causes of errors in AI image generators can inform improvements in algorithm design, dataset quality, and training methodologies, thereby enhancing their overall performance and robustness.
5. User Experience and Acceptance: Users' perception and acceptance of AI-generated images are influenced by the frequency and severity of mistakes encountered. Addressing these issues is essential for fostering trust and widespread adoption of AI technologies.

This research aims to investigate the types, causes, and consequences of mistakes made by AI image generators, offering insights into how these systems

can be improved to maximize their potential while minimizing unintended outcomes. By addressing these challenges, we can advance the responsible development and deployment of AI image generators across various sectors, ensuring their safe and beneficial integration into our technological landscape.

Objectives:

This is a long-term goal that involves creating AI systems capable of understanding the difference between the need to extract aesthetic artistic images and extracting images that rely on sound historical reference, this could be by :

1. Enabling machines to understand and generate human language, more precisely, the machine understands what the user specifically wants to see without the need for him to learn more of the command formulas used when extracting the image.
2. Equipping machines with the ability to "see" and interpret the visual world, as when we talk about a historical era such as the era of the Pharaohs, all other elements that complement the scene must be taken into account, such as clothing, accessories, and surrounding places.
3. Allowing machines to learn from data without explicit programming, where specialists can provide the machine with the necessary data to extract the correct image, this is not limited to the application programmers only. Rather, the role of the programmers is a supervisory one to revise the material provided by the application.
4. Enhancing Human Capabilities, to create tools that augment human capabilities, such as: Personal Assistants, Augmented Reality Applications, Adaptive Learning Systems, Understanding Intelligence.
5. Explores the nature of intelligence itself, to understand how the human brain works and learn to replicate its capabilities in machines, while developing a new frameworks for defining and measuring intelligence in both humans and machines.
6. Exploring the Future of AI Image generators applications and how AI can collaborate with humans to create new jobs and opportunities.

Methodology:

The descriptive analytical approach, where models not created by the researcher will be presented, in order to prove that the problem is general and not in incomplete orders by the researcher, to clarify the problem and proposing solutions that can help develop the performance of artificial intelligence in the near future.

Theoretical Side:

While AI image generators have made remarkable

strides in creating realistic and imaginative visuals, they are not immune to errors. This research explores the spectrum of historical mistakes encountered in AI-generated images, aiming to identify key insights that can inform future advancements and applications of this transformative technology.

The Importance of AI image generators:

AI image generators stimulate innovation, allowing for exploration of new visual styles and facilitating personalized user experiences. And here some of the importance of them in such several points:

1. **Creativity and Art:** can create visually appealing and sometimes groundbreaking artwork that pushes the boundaries of creativity. This can be in the form of paintings, digital art, or even realistic photographs that are indistinguishable from those taken by a human photographer.
2. **Efficiency:** can generate images quickly and on-demand, saving time and resources compared to traditional methods of image creation. This efficiency is particularly valuable in industries such as advertising, design, and entertainment where visual content needs to be produced rapidly.(Bassiouni, A., 2005)
3. **Personalization:** can create customized images based on specific inputs or parameters, allowing for personalized content creation at scale. This capability is useful in fields like marketing and e-commerce where tailored visuals can enhance customer engagement.
4. **Data Augmentation:** can be used to augment training datasets. This helps improve the robustness and diversity of models, leading to better performance in real-world applications.(Russell, S., 2019)
5. **Exploration and Innovation:** a tool for exploring new artistic styles, experimenting with unconventional ideas, and fostering innovation in visual arts and design. They enable artists and designers to explore new avenues that may not have been feasible with traditional methods.(Christian, B., 2020)
6. **Accessibility:** They democratize access to artistic tools and techniques, allowing individuals with varying levels of expertise to create compelling visual content without extensive training or technical skills.

“Black Egypt, depiction of Ancient Egyptian slavery, drawn in all its horrifying glory, beautiful Southern background, resolution 8k, insanely detailed”

Theoretical Side:

The great interest that was received by the wave of artificial intelligence in the world was not far from

the Arab world as well, and many platforms were made available that provide artificial intelligence services for free, for no other purpose than to develop their platforms with the data that the user may provide for the optimal use experiences that he wants to provide, here it is worth noting that artificial intelligence is a large field, but as a field specialized in fashion and history, the use was only for content that presents images generated through artificial intelligence, and here the problem was in the computer's interpretation of terms similar to:

"Pharaoh, Pharaonic, Ancient Egypt"

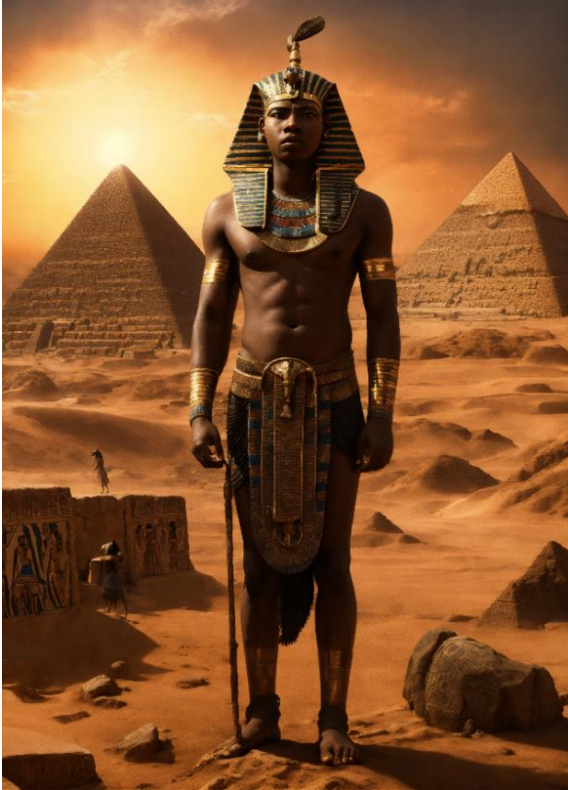


Figure 1 : An image generated through artificial intelligence depiction of ancient egyptian slavery

Artificial intelligence treats images as an artwork in the first place, which sometimes contradicts the realism of the clothes used in that previous era, in addition to the proven historical facts, for example in the following figure (Figure 1) despite the beautiful artistic image extracted by the site and the additional effects of heat necessary to complete the scene, we notice that the pyramids appear in their current known form, which was not the same form in the past, so There is confusion between whether the image is an embodiment of a situation or situation of a person from the ancient Pharaonic era, or whether it is a representation of the Pharaohs in the current era, which is not mentioned in the order describing the image, and it was as follows: "Black Egypt, depiction of Ancient Egyptian slavery, drawn in all its horrifying glory, beautiful

Southern background, resolution 8k, insanelly detailed"

This is in addition to the talk that will be repeated frequently about the type of clothing and accessories that will be covered in all the upcoming figures, when talking about the class of slaves mentioned in the previous description, and this is also something that does not apply to the picture itself, as this was not similar to the clothing of the lower classes.

In ancient Egypt, clothing played a crucial role in both social status and religious symbolism. The Egyptians predominantly wore garments made from linen, which was abundant and well-suited to the region's hot climate. Clothing styles varied depending on one's wealth and occupation, with finer garments adorned with pleats, embroidery, and intricate patterns reserved for the elite. Both men and women commonly wore tunics, while women also donned draped dresses that could be embellished with jewelry and accessories. Colors held symbolic meanings; for instance, white represented purity and simplicity, while bright colors like red and blue signified wealth and status. Clothing in ancient Egypt not only reflected practical considerations but also served as a means of cultural expression and religious significance. (Brier, B., 2008)

Therefore, the general fundamental differences between the clothing of the various classes of people will be listed, In ancient Egypt, clothing reflected practicality and simplicity. Here are some key points:

Overall, AI image generators play a significant role in enhancing creativity, efficiency, and innovation across various industries, making them an important technological advancement in the realm of visual content creation.

1 - Unisex Clothing:

- Egyptian fashion was quite unisex. What men wore was often similar to what women wore.
- The lower-class men and women both wore knee-length plain kilts, typically made of cotton, linen, or flax.
- Upper-class women in the Old Kingdom wore longer dresses that covered their breasts, but even they shared basic clothing forms with men. (Al-Khadim, S., 1961)

2 - Materials and Colors:

- Linen was the primary textile material. It was spun, woven, and sewn to create clothing.
- Linen garments were often left in their natural color or dyed with plant-based dyes.
- Only the wealthy occasionally wore animal fibers, which were considered taboo and forbidden in temples. (Mark, J., 2017)



Figure 2 : A drawn image representing the model of slave clothing in the ancient Pharaonic era

3 - Social Classes:

- Slaves were generally naked, while commoners wore loincloths made from animal skin and linen. (Figure 2)

- A linen kilt or tunic called a "kalasaris" was common for everyone from the commoner class upwards. (Seaver, C., 2023)



Figure 3 : An image generated through artificial intelligence to depict the pharaoh character "Cleopatra"

From what was mentioned above, it is clear that the clothes of the majority did not contain such exaggerated accessories, nor the type of golden clothes, in which it is clear that the influence in them is based solely on the idea of the known continuous observations of ancient Pharaonic antiquities. (Tilke, M., 1957)

In this second model (Figure 3), expressive keywords for the image to be extracted were adopted as follows:

"Mid shot of A grand and elegant Cleopatra, draped in luxurious attire and seated on a throne or royal chair. Cleopatra should be portrayed as a regal and captivating queen, adorned with intricate jewelry, garments fit for a ruler, and an aura of majesty. The palace chamber should exude the ambiance of ancient Egypt, with hieroglyphs, ornate furnishings, and the opulence befitting a pharaoh's court. A sumptuous and opulent chamber in an ancient Egyptian palace
Lighting: Soft, golden light reminiscent of candlelight and palace torches
Color: Rich and vibrant colors inspired by ancient Egyptian art and jewelry, Movie Still, cyborg style, steampunk style"

As can be seen, the image is very attractive from a technical standpoint. The precision in executing the details gives the image an additional aesthetic appearance. The focus on the realism of the scene makes the final image as close as possible to a photographic image, with the details that the designer mentioned in creating his image, he did not specify the type of used clothes, and it was replaced with the name "Cleopatra," the famous Pharaoh queen. Which belongs to the Ptolemaic era in Egypt. (Hamma, K., 1996)

In addition to the artificial intelligence's lack of knowledge of the approximate features of Queen Cleopatra VII (Walters, E., 1988), it tried to complete that detail by replacing it with Egyptian features and dark skin, while she was of Greek origin and tended to be European, with curly hair (Bianchi, R., 1988) (Figure 4).



Figure 4 : The Berlin Cleopatra, a Roman sculpture of Cleopatra wearing a royal diadem, mid-1st century BC, now in the Altes Museum, Germany "

The artificial intelligence acted in creating the rest of the scene. Of course, it directed his personal view based on the data entered to it previously, while there was interest in showing her as a queen with clear beauty, attractive body and figure, but

the clothes appeared contrary to what was mentioned in most scientific references that talked about the materials of the ancient Egyptians' clothing, in addition to that by focusing on In her clothes, we find that the accuracy of the weaving and the fabric material are difficult to implement manually, even at the present time. Rather, they require spinning and weaving machines. While the ancient era of the Pharaohs, in which machines that gave results similar to those in the picture did not exist, and here lies the main difference that Artificial intelligence was not able to handle it.

To explain some styles of women's clothing, they were based on woven rectangles, and another development occurred in clothes by following a different method of fixing the cloth more tightly to the body, by passing the head through the opening of the neck, and the two ends of the cloth draped from the front and back along the length of the person, and sometimes there is a suture that starts from under the armpit to the buttocks, allowing the arm to emerge from above, this type of clothing uses a large area of fabric, and this type of clothing wrapped around the body is the development resulting from the simple garment that appeared from the beginning of the Old Kingdom and then developed during the Middle Kingdom and then during the New Kingdom (Walters, E., 1988), where the weavers increased the area of cloth used in the work of this garment hindered the freedom to make many folds that distinguished this garment. They also used the extra part to complicate the method of folding it around the body and tying it elegantly around the shoulders and then with a prominent knot under the chest, or in some cases the shoulders may be left bare while a large part of the bull gathers in one hand with the other shoulder covered (Ashton, S., 2001) (Figure 5).



Figure 5 : A fragment of the Awenkhoy vessel of Queen Cleopatra I, located in the Ashmolean Museum in Oxford, England

In the end, the methods of fastening women's clothes depended on the fastening methods of queens' clothes, whether through clothes wrapped around the body, or through straps tied or over the shoulders or wrapped around the neck, or through belts, and they took on bright colors, and the clothes were distinguished by their tight fitting on the body. Pins, clips, and the belt also appeared. Sewing became widespread throughout clothing, and knots became widespread. (Bianchi, R., 1988) This time, let's take a live model of a famous Pharaonic figure like Tutankhamun to see how the AI saw and deduced it.

Here we would like to clarify that we are not attacking artificial intelligence sites, and this has been proven in the current model, where the search was made to choose the optimal image that is closest to reality, and in which many images were revised to reach the closest realistic image that represents the true king of his time, since if the reliance was made On the first images that appeared, there will be a major attack on them, similar to those before them, as they all contained artistic exaggerations and nothing more for the purpose of portraying the king in a form that contains the royal aura that the user prefers to see and imagine about that era, without taking into account the historical facts attached to it.



Figure 6 : An AI generated image for a Pharaoh Back again to the example (Figure 6), the prompt of making it was :

"pharaoh in dreams"

While I reached the photo by searching for a keyword of : "tut"



Figure 7 : The funerary mask of Tutankhamun

The prompt itself is the first strange comment, Whereas, as explained, the matter in which the image was designed did not want to extract an image of the Pharaonic king Tutankhamun, but rather it was merely a perception of the Pharaoh through a dream, but I was able to reach the image through keywords that expresses Tutankhamun, and Here we explain that the selection of the image, in contrast to the number of models that appeared in the search results, was based on the personal information of the researcher for the king who died at a young age, as well as the theories that talked about the presence of physical disabilities of the king, and here it is worth noting again that the artificial intelligence of the site did not intentionally display it in the form The historically known realist revealed his physical disability. Indeed, the prompt did not contain the king's name at all. Rather, the main reason was technical errors that occur when extracting the fingers of the human hand via artificial intelligence, as well as the incompleteness of the final peripheral image when extracting it and determining what is in it, as can be seen in the above image.

The picture has nothing to do with the Pharaonic king, not even the famous golden mask (Figure 7). Here too, it must be cleared that the mask does not mean that the king wore clothes similar to it during his life, but rather that the mask was designed for other reasons, which has successfully fulfilled its role, but back to the topic of the research, the emphasis is that there is no link between reality in the past and the images that are extracted throw AI, especially if it is emphasized that the work did not specify whether the image is an imaginary image of the king at the present time, or is it a general imaginary image, and therefore the correct imagination must to include accessories close to reality in the era in which he lived.

In another test of the accuracy of AI in generating realistic images of Pharaoh figures, another image

of a Pharaoh person was used (Figure 8), with the following Prompt description:



Figure 8 : An image generated through artificial intelligence for a Pharaoh man

“A symmetrical huge bodybuilder close-up of an african male egyptian pharaoh with a buzzcut, dark-skin, with a powerful look to him, and a calculating expression, sitting on a golden throne with his hands up contemplating.”

Despite the great realism of the extracted result, it necessarily reflects reality, as the lighting and prominent muscles may be similar to several other explanations. However, the focus of the study here is on the realism of the details and not on the realism of the image only, because there is a consensus now that the images generated through artificial intelligence that reaches such a high degree of realism that auditions may sometimes not be able to differentiate it from photographs.

We can initially talk about the accessories contained in the AI generated image, which are neck jewelry as well as hand bracelets. Although they add a luxurious appearance to the character and to the general scene, however, upon technical examination and historical analysis of them, it becomes clear that they were drawn primarily for the aesthetic appearance. Without any historical support confirming the amount of extravagance present in the picture at the level of citizens other than kings. on the contrary, the general level of individuals was much lower than that of the royal classes, and this has been proven repeatedly in many historical Pharaoh studies. (Brier, B., 2008)

As for clothing, there are some commonalities in some cases, as kings and citizens share the same clothes, and in many cases the Pharaoh kings are distinguished from other common people by more clothes that differ in appearance, as this can be

clearly seen in the drawings that contained Kings with their entourage. (Pritchard, F., 2006)



Figure 9 : A painted picture of the famous Narmer painting, which shows details of King Minas' clothing in that age

In the Old Kingdom, men usually wore a kilt, which is a simple piece of cloth wrapped around his waist center clockwise from back to forward, so that its edge is thrown back forward, then the upper edge is knotted. It is wrapped inward, thus making it stable and not slipping. The half-folded kilt also appeared in the Old Kingdom the man from the upper classes wore a piece of cloth wraps around the middle and counterclockwise, then it is tightened with a belt or noose and tied into a special knot for fastening, this button was often shortened up to above the knee, but that was not all in the matter of men's clothing, there were inscriptions and statues that provided us with a lot about fashion in that period, for kings, we have been provided with the oldest inscriptions depicting the king in his famous painting (Figure 9), The Pharaoh King "Mina" wears the royal robe short and wraps around the middle until it reaches the middle of the thighs, he wears a waist belt with a tail hanging from the back, it was tall, and the upper part of the body was worn with a shirt or a small chest. It is a piece of cloth that wraps around the chest and below the breasts, then passes its tip over left shoulder from behind to bounce and hold the other end on the chest from the side the left one has a metal clip. this short kilt appeared in many statues of kings and the public citizens. (Robins, G., 1997)

The same situation applies to men's clothing, although the situation here is close to the brief realistic model of the man's bare chest, but the completion of the image was not in the correct manner, as the shoes are completely golden, which is not entirely applicable to the shoes of the Egyptians at that time. (Tilke, M., 1957)

If we take an example from one of the famous pharaoh kings, King Tutankhamun, whose tomb contained a large amount of golden treasures. contained a golden lion-headed bier on which

rested three nested coffins in human shape, while the innermost coffin, though similarly inlaid, was primarily composed of 110.4 kilograms (243 lb) of solid gold. but as shown in the picture (Figure 10), the sandal belonging to one of the most famous kings was not larger than that size, nor was gold-plated as shown in the previous AI model. It should be noted that the expressive words of the picture did not indicate that the character was royal, so it was logical to replace the shoe or sandal to a lower cost than the royal shoe proven throughout history. (Vogelsang, G., 1993)



Figure 10 : A sandal found in the tomb of Tutankhamun - Eighteenth Dynasty - New Kingdom

Conclusion:

Although artificial intelligence images have become an inspiration for many works, artificial intelligence developers must pay attention to historical verification by seeking the assistance of experts in these fields to generate images that are not only more realistic but also acceptable to experts in each field, and thus artificial intelligence platforms help those who have no knowledge or experience in history while generating the true image due to accurate technical information if what is required is a complete or imaginative visualization of a previous era with all its accessories and clothing. What is considered a contribution from us with the information we possess in an active and important field in the current period as well as the future which is the AI generated images.

This can be summarized that artificial intelligence translates images with contemporary vision due to the modern global point of view, which tends toward images closest to reality, or artistic preferences, all according to the data it gave to the image in the design prompt from the user, but when referring to old photos, for example the period of the sixties and seventies, it contains better data than that, in addition to visual effects that help to imagine the atmosphere at that stage, and this may be due to the availability of material that contains

images and references that are useful in visualization and to chronicle that period in new AI images. As for the older periods of time, we still have many roles that must be adopted to clarify the difference between imagining an aesthetic image close to reality and generating an image close to reality also based on the available historical information.

Improving AI-generated images can involve several approaches depending on the specific techniques and algorithms being used. Here are some general tips that can be applied across different methods:

1. **Increase Training Data:** Ensure that the AI model has been trained on a diverse and extensive dataset. More data can help the model learn a broader range of features and styles, leading to more realistic and detailed images.
2. **Fine-tuning Hyperparameters:** Experiment with different hyperparameters such as learning rate, batch size, and network architecture. Fine-tuning these parameters can significantly affect the quality of generated images.
3. **Use Pre-trained Models:** Leveraging pre-trained models, especially those trained on large-scale datasets like ImageNet or COCO, can provide a good starting point. Fine-tuning these models on your specific dataset or task can lead to improved results.
4. **Data Augmentation:** Apply data augmentation techniques to increase the variability of the training data. Techniques such as rotation, scaling, flipping, and color augmentation can help the model generalize better and produce more diverse images.
5. **Regularization Techniques:** Implement regularization methods such as dropout or weight decay to prevent overfitting and improve the generalization ability of the model.
6. **Evaluate and Iterate:** Continuously evaluate the quality of the generated images using metrics like Inception Score, FID (Fréchet Inception Distance), or human evaluation. Use this feedback to iterate on the model and improve its performance.
7. **Post-processing:** Consider applying post-processing techniques such as denoising, sharpening, or color correction to enhance the visual quality of generated images.
8. **Domain-Specific Adjustments:** Depending on the application, consider domain-specific adjustments. For example, for generating faces, ensuring realistic facial features, expressions, and lighting can be critical.
9. **Ensemble Methods:** Combine outputs from

multiple models or generator networks (ensemble methods) to potentially improve the diversity and quality of generated images.

10. **User Feedback:** Incorporate user feedback and preferences into the training process. This can help the model learn to generate images that are more aligned with human expectations and preferences.
- Implementing these strategies requires experimentation and tuning based on the specific AI model and application domain. Continuous refinement and optimization are key to achieving high-quality AI-generated images.

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