Proposal

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1 Title

Exploring User Preferences in the OnlineArt Market: A Comparative Analysis of Human-Created and AI-Generated Artwork on pixiv.net

2 Background

Generative AI models have revolutionized various industries, including the labor market, with their transformative capabilities[1]. However, the influence of AI-generated artwork on user preferences within the online art community remains a topic of significant interest. As the prevalence of AI drawing tools, such as Stable-Diffusion (SD) and Midjourney, continues to grow, it becomes crucial to investigate the different topics of AI-generated images and understand user preferences in comparison to human-created artwork.

3 Literature Review

Generative AI models have revolutionized various industries, including the labor market, with their transformative capabilities[1]. Econometric techniques still works to analyze[2] Stable Diffusion [3]point

4 Objectives

We are going to Explore the factors/variables influencing the ranking of these images and examine the preferences of ordinary users towards AI-generated versus Human-Created artwork using an ordered choice model. To Discover distinct themes in AI-generated and Human-created artworks using topic modeling can also be the main objective in the future but not in the paper of our course.

5 Dataset

In this study, we developed a web spider to crawl the dataset from pixiv.net, a prominent online platform where artists share their artwork. The website pixiv.net is widely recognized and highly regarded within the online art community, making it an ideal source for collecting data related to AI-generated artwork and user preferences.

We collected the data spanning from October 31, 2022, to May 15, 2023 from the top list of AI-generated and human-created image pages. After de-duplicating same image pages which may appear in top with different ranks and different days, we gathered the samples:

- Number of all samples: 14576
- Number of samples of AI-generated Artworks: 8092

- Number of samples of Hand-drawn or human-created Artworks: 6484

6 Methodology

6.1 Econometrics Methods

For analysis the daily rank of pictures as ordered data, we will employ econometrics tools which are ordered choice models. Specifically, we utilize both the ordered logit and ordered probit methods to examine the relationships between the independent variables and the categorized rankings effectively.

6.2 Machine Learning Tools

For differing the topics in ranked pages, we will apply some neural network/deep learning algorithms to finish the job in the future work.

7 Significance of the Study

This study can provides in-depth insights into the digitization trends in the contemporary painting art market. and explores the role of artificial intelligence in artistic creation, offering now only references for the future development of digital art, but also a new and profitable perspective on potential user preferences in the future art market.

8 Expected Results

Accomplishment this paper can determines whether art generated by artificial intelligence, especially AI painting, is subject to cognitive biases due to technological characteristics. We can also identifies the preferences of the general ACG (Animation Comic and Game) users for AI-generated painting works and reveals the potential changes of digital technology on the online art market by this research.

8 Bibliography

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