

Pop Calligraphy Artwork: AI Meets Guangzhong Wu on Social Media

Ronghua Cai

rcai731@connect.hkust-gz.edu.cn

Hong Kong University of Science and Technology
(Guangzhou)

James She

jamespmshe@hkust-gz.edu.cn

Hong Kong University of Science and Technology
(Guangzhou)



Figure 1: Calligraphy Painting Artwork of Guanzhong Wu (a) and Our Generation Results (b)

ABSTRACT

This artwork explores the digital generation of Chinese calligraphy paintings in the style of Guanzhong Wu, blending traditional art with modern computational techniques. We employ FontDiffuser for calligraphy generation and Midjourney for creating initial backgrounds, which are then inputted into a LoRA model for background refinement. The final compositions are manually integrated and further enhanced using a newly trained LoRA model. This method captures Wu’s unique style while addressing contemporary societal themes through the phrases “好想摆烂” (feeling like giving up) and “肝就完了” (just keep working hard). These phrases reflect the tension between societal pressure and personal resilience, inviting reflection on modern societal conditions.

CCS CONCEPTS

• **Applied computing** → **Arts and humanities; Fine arts;** •
Computing methodologies → *Artificial intelligence.*

KEYWORDS

Chinese Calligraphy Painting, Digital Art Generation, Guanzhong Wu, Style Transfer

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1 INTRODUCTION

Chinese calligraphy painting is a revered art form that elegantly combines calligraphy with painting, holding a significant place in Chinese cultural heritage. This artwork aims to digitally generate calligraphy paintings in the style of the renowned artist Guanzhong Wu, known for his unique blend of traditional and modern elements. By leveraging advanced computational techniques, we seek to replicate Wu’s stylistic nuances while creating detailed and aesthetically pleasing backgrounds. The phrases “好想摆烂” (feeling like giving up) and “肝就完了” (just keep working hard) are used to reflect contemporary societal sentiments, creating a dialogue between historical art forms and modern-day issues. Fig.1 presents the calligraphy painting of Guanzhong Wu[1] and our generated calligraphy artworks.

2 RELATED WORK

Integrating calligraphy and painting into cohesive digital artworks involves careful consideration to seamlessly merge these two elements. Commonly used image generation models like LoRA[2] and Midjourney excel at creating intricate backgrounds but are less adept at generating text. This limitation necessitates the use of specialized techniques for calligraphy generation. Yuan et al. developed the Polaca system to address this by generating poetic Chinese landscape paintings with calligraphy. However, their approach primarily involves overlaying calligraphy onto landscapes without achieving deeper fusion, suggesting room for further integration[3].

FontDiffuser uses denoising diffusion models to replicate various calligraphic styles effectively[4]. This method leverages multi-scale

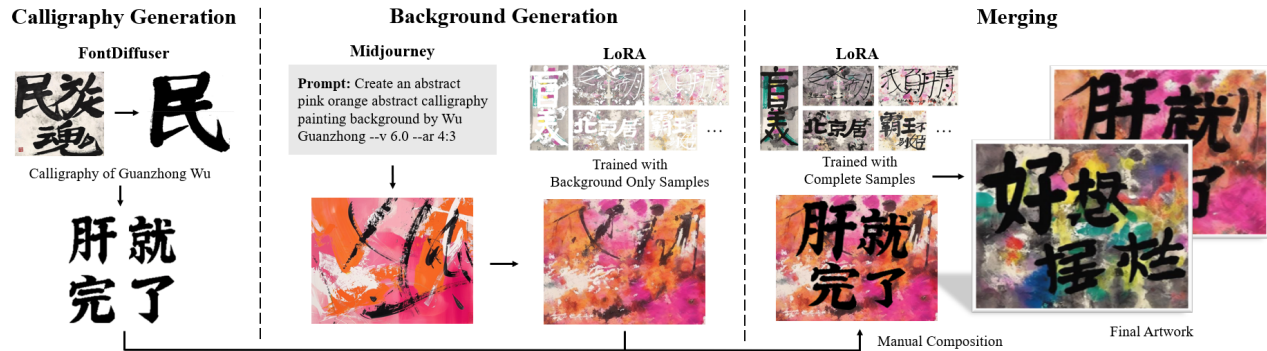


Figure 2: Our Artwork Generation Methodology Workflow

content aggregation and style contrastive learning to produce calligraphy that closely mirrors the aesthetics of traditional artworks, making it a valuable tool in the digital generation of calligraphy paintings.

3 METHODOLOGY

Our methodology involves generating calligraphy characters and backgrounds separately and then combining them into cohesive artworks as shown in Fig.2. The process includes:

- **Calligraphy Generation:** We selected calligraphy characters from Guanzhong Wu’s works and used FontDiffuser to learn his style which allows us to generate new calligraphy content.
- **Background Generation:** Employing Midjourney to generate images using suitable prompts. These images are then inputted into a LoRA model, which is trained by segmented artworks of Guanzhong Wu that only contains background.
- **Merging:** We manually combine the generated calligraphy and backgrounds. Additionally, we train a new LoRA model using the complete artworks, which enhances the integration of calligraphy and painting, creating a harmonious and cohesive final artwork.

The resulting artworks can be displayed as high-quality prints or on digital screens. Printed versions allow viewers to appreciate the intricate details and textures. Digital screens offer an interactive and dynamic viewing experience, potentially incorporating subtle animations.

4 DISCUSSION

The calligraphy characters we generated, such as “好想摆烂” (feeling like giving up) and “肝就完了” (just keep working hard), reflect contemporary societal sentiments often seen on social media. “好想摆烂” is a phrase used to convey a sense of resignation and exhaustion prevalent in today’s fast-paced society, where individuals feel overwhelmed by constant demands and pressures. It describes an attitude of giving up or letting things be when faced with difficulties. On the other hand, “肝就完了” plays on the word “肝” (liver) in Chinese, which sounds like “干” (do) but also implies staying up late and harming one’s health due to overwork. This phrase represents a resilient, hardworking spirit, urging people to persevere despite challenges. This duality highlights the tension between societal pressure and personal exhaustion, as well as the drive to

keep going. Besides, we chose the character “民” (people) as our style reference, implying that the societal conditions reflected in the generated content are rooted in the experiences of the people. This allowed us to generate new calligraphy content that closely replicates Wu’s distinctive brushwork and artistic expression while highlighting contemporary societal sentiments.

Guanzhong Wu’s style, known for its integration of traditional and modern elements, provides a fitting medium for expressing these sentiments. Wu’s works often reflect his bold personality and his willingness to challenge conventional norms. By using Wu’s style to write these phrases, the artwork creates a dialogue between the historical depth of traditional calligraphy and modern-day issues, provoking thoughts on how past wisdom can address present challenges. Wu’s ability to blend the old with the new, and his critical perspective on societal issues, resonates with the dual nature of these phrases. This not only brings a sense of continuity between past and present but also invites viewers to reflect on the societal conditions that lead to such sentiments.

5 CONCLUSION

This artwork presents a method for digitally generating Chinese calligraphy paintings in the style of Guanzhong Wu. By separately generating calligraphy characters and backgrounds and then combining them, we achieve a balance between stylistic fidelity and aesthetic detail. Our approach demonstrates the potential of machine learning techniques in preserving and innovating traditional art forms. Future work will focus on explore different methods to integration process to achieve a more seamless fusion of calligraphy and painting, further contributing to digital art and cultural preservation.

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