

2024/2025 Research Seminar #8

Facilitator:

Dr. LOW Yiu Tsang Andrew
Director of Research Office

Speakers



Dr. LI Chengze
Assistant Professor
School of Computing and
Information Sciences

Presentation Title:
A Contrastive Unified Encoding Framework for Sticker Style Editing

Abstract:

Stickers are widely used in digital communication to enhance emotional and visual expressions. The conventional process of creating new sticker pack images involves time-consuming manual drawing, including meticulous color coordination and shading techniques for visual harmony. Learning the visual styles of distinct sticker packs would be critical to the overall process; however, existing solutions usually learn this style information within a limited number of style "domains", or per image. In this work, we propose a contrastive learning framework that allows the style editing of an arbitrary sticker based on one or a number of style references with a continuous manifold to encapsulate all styles across sticker packs. The key to our approach is the encoding of styles into a unified latent space so that each sticker pack correlates with a unique style latent encoding. The contrastive loss ensures identical style latents within the same sticker pack, while distinct styles diverge. Through exposure to diverse sticker sets during training, our model crafts a consolidated continuous latent style space with strong expressive power, fostering seamless style transfer, interpolation, and mixing across sticker sets.



Dr. LIU Xueting Tina
Assistant Professor
School of Computing and
Information Sciences

Presentation Title:
Calligraphic Guideline Generation via Contour-guided Brush Fitting

Abstract:

Guidelines play an important role in calligraphy study since they allow beginners to get an idea of how the calligraphic strokes are formed and how to write a calligraphic stroke. However, manually generating guidelines for calligraphic characters is tedious, so only limited calligraphic books with guidelines provided are available. To automatically generate the guidelines, one needs to first decompose the strokes from the character and then automatically generate guideline for each stroke. However, this is very challenging since the existing guideline generation methods only mimic the shapes of the guidelines, but generally cannot produce precise guidelines that can be practically used for amateurs to trace the calligraphic strokes. In this paper, we first adopt a state-of-the-art stroke segmentation method based on the information of stroke categories. Then we propose a novel guideline generation method by fitting ellipse-shaped brushes to each stroke based on contour tangents. Extensive visual and quantitative experiments have been conducted to validate the effectiveness of our method. Results and statistics show that our method outperforms existing methods both visually and quantitatively.



21 May 2025, Wednesday
11:00 am – 1:00 pm



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Register

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