Shuya YANG

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EDUCATION

The University of Hong Kong Sep 2020 - Jan 2025

Bachelor of Engineering in Computer Science

- **GPA:** 3.69/4.3 (First Class Honors)
- **Related Courses:** Computer Vision (A)/ Algorithm Design (A)/ Artificial Intelligence (A)

HONORS

1st runner-up in IEEE (Hong Kong) Computational Intelligence Chapter FYP Competition	2024
HKU Research Internship Award	2023
HKU Undergraduate Entrance Scholarship	2020 - 2024

RESEARCH EXPERIENCES

Part-time Research Assistant, *The Hong Kong Polytechnic University* Sep 2024 - Feb 2025

Supervisor: Prof. Bo Yang

- Conducted an in-depth study on 3D object generation using diffusion models, systematically analyzing the strengths and weaknesses of existing methods.
- Proposed a framework for 3D object generation based on diffusion models to address discontinuity issues in geometry image generation for 3D objects.
- Preprocessed 3D objects using Blender by converting them into geometry images for training.
- Contributed to the development of a Transformer-based geometry image generation method that leverages sequence modeling to address the unordered structure of geometry image generation, thereby improving the continuity of geometry images.

Student helper, *The Chinese University of Hong Kong & The University of Sydney* Aug 2024 - Dec 2024

Supervisor: Prof. Hongliang Ren & Prof. Luping Zhou

- Co-first authored a paper on controllable medical video generation, currently under review for MICCAI.
- Conducted experiments on medical video generation using state-of-the-art controllable video generation models.
- Evaluated model performance on endoscopy video generation, identifying key challenges: generation instability and detail degradation.
- Participated in the design of a model improvement algorithm that integrates depth and optical flow, contributing to the enhancement of the accuracy and stability of the generated videos.
- Built an interactive demo website showcasing model capabilities and research findings.

Undergraduate Research Fellowship Program, *The University of Hong Kong* Jun 2023 - Sep 2023

Supervisor: Prof. Kenneth K.Y. Wong

- **CVPR 2025 (Co-first author)**: Introduced "Blemished Subject-Driven Generation"—a novel task addressing artifact-polluted inputs in subject-driven generation.
- Proposed ArtiFade, a generalizable model targeting the removal of arbitrary visible or invisible artifacts in polluted inputs during generation, outperforming prior work.
- Performed extensive quantitative and qualitative evaluations to assess the ArtiFade's effectiveness, revealing that ArtiFade significantly surpasses existing subject-driven approaches such as Textual Inversion and DreamBooth in handling inputs contaminated by arbitrary artifacts.
- Demonstrated ArtiFade possesses the remarkable ability to eliminate adversarial noises, watermarks, and stickers during image generation in real-world applications.

Student Research Assistant, *The University of Hong Kong* Dec 2022 - Mar 2023

- Engaged in the application of Binary Classification models and Neural Networks for archaeological site identification.
- Prepared geographical data using Geographic Information System software.

Student Research Assistant, *The University of Hong Kong* Dec 2021 - Mar 2022

- Attempted to use Unity to create interactive 3D visualizations of archaeological scenes.
- Acquired fundamental knowledge in 3D modeling.

PUBLICATION

- *(CVPR 2025)* ArtiFade: Learning to Generate High-quality Subject from Blemished Images.
  Shuya Yang*, *Shaozhe Hao**, *Yukang Cao#*, *Kwan-Yee K. Wong#*
- *(Pre-print)* SurgSora: Decoupled RGBD-Flow Diffusion Model for Controllable Surgical Video Generation.
  Tong Chen+*, ***Shuya Yang****, *Junyi Wang**, *Long Bai+*, *Hongliang Ren, and Luping Zhou#*

**Equal Contribution, #Corresponding author, +Project lead*

EXTRACURRICULAR ACTIVITY

Student, Tencent Game Client Training Course Jul 2022 - Oct 2022

- Built game modes and scenes using Unreal Engine.
- Completed the course with an A grade.

SKILLS

- **Programming Languages:** Python, C++, Java
- **Tools:** LaTeX, PyTorch
- **Languages:** Mandarin (native), English (fluent)