Yuhao Zhang

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Research Interest

Computer Vision, Machine Learning

Education

NUS (National University of Singapore) 2024/01 – 2024/05 (Expected)
Computer Department Exchange

HKUST (Hong Kong University of Science and Technology) 2021/09 – 2025/08 (Expected)
BSc in Computer Science & Mathematics

- GPA: 3.967/4.3 (top 2%)
- Major GPA: 4.045/4.3

Selected Courses
COMP5212 PG level Machine Learning (A+)
MATH5411 Advanced Probability (A+)
COMP3711 Algorithm(A+)

Publication

DragVideo: Interactive Drag-style Video Editing (with Arxiv link)
Yufan Deng*, Ruida Wang*, **Yuhao ZHANG***, Chi-Keung Tang, Yu-Wing Tai Under Review
* indicates equal contribution. The order of authorship was determined alphabetically

Research Experience

DragVideo: Interactive Drag-style Video Editing 2023/07 – 2023/11
Advised by Prof. Chi-Keung Tang HKUST
And Prof. Yu-Wing Tai Dartmouth College

- Propose a novel method for drag-style Video Editing with a user-friendly interface
- Use the 3D diffusion model and task-specific LoRA to solve the frame inconsistency in the editing process
- Submitted to **CVPR24**
- Chosen to be featured in HuggingFace's "**Daily Paper**" within 48 hours after uploading

Learning and Adversarial Style Augmentation for Unseen Domain Anomaly Detection 2022/09 – 2023/9
Advised by Prof. Hao Chen HKUST

- Researched medical abnormal detection in the unseen domain.
- Try to solve the domain shift problem by applying style augmentation and dual branch inference.

Using Diffusion Model to do Object Trajectory Generation 2024/01 – Now
Advised by Prof. Lin Shao NUS

- Research on using Diffusion to do Object Trajectory Generation

Projects

Review on theoretical understanding of Transformers 2023/09 – 2023/12
Project of Postgraduate Machine Learning Course HKUST

- Research on the White-Box Transformer and its architecture
- Look into several current research directions like Training Dynamics, Expressiveness, and theoretical explorations into Transformers applied in Computer Vision and Graph

Research Intern in StatML Lab 2023/2 – 2023/4
Advised by Prof. Tong Zhang HKUST

- Contribute to developing LLM-FT, a codebase for large language model finetuning and inference
- Collect and preprocess academic data for large language model training

Selected Awards

- Dean’s list for all semesters of study in HKUST

Skills

PyTorch, LaTeX, Git, Markdown