

YILIN WANG

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EDUCATION

UC San Diego Computer Science and Engineering Department Doctor of Philosophy in Computer Science Advisor: Prof. Hao Su	San Diego, California, USA 09/2024-
Tsinghua University Institute of Interdisciplinary Information Sciences (Yao Class, IIIS) Bachelor of Engineering in Computer Science	Beijing, China 09/2020-07/2024
The Affiliated High School of South China Normal University Senior High School	Guangzhou, China 08/2017-07/2020

RESEARCH INTERESTS

- Robot learning (Sim-to-Real Manipulation)
- Computer Vision (Generative models, 3D vision)

PAPERS

Yilin Wang*, Shangzhe Li*, Haoyi Niu, Zhiao Huang, Weitong Zhang, Hao Su, *A Recipe for Efficient Sim-to-Real Transfer in Manipulation with Online Imitation-Pretrained World Models*, in submission.

Yilin Wang, Zeyuan Chen, Liangjun Zhong, Zheng Ding, Zhizhou Sha, Zhuowen Tu, *Dolphin: Diffusion Layout Transformers without Autoencoder*, ECCV2024.

Yilin Wang*, Haiyang Xu*, Xiang Zhang, Zeyuan Chen, Zhizhou Sha, Zirui Wang, Zhuowen Tu, *OmnicontrolNet: Dual-stage Integration for Conditional Image Generation*, GCV Workshop at CVPR2024.

Zirui Wang, Zhizhou Sha, Zheng Ding, **Yilin Wang**, Zhuowen Tu, *TOKENCOMPOSE: Grounding Diffusion with Token-level Supervision*, CVPR2024.

Haiyang Xu, Yu Lei, Zeyuan Chen, Xiang Zhang, Yue Zhao, **Yilin Wang**, Zhuowen Tu, *Bayesian Diffusion Models for 3D Shape Reconstruction*, CVPR2024.

RESEARCH EXPERIENCE

Su Lab (UCSD) Advisor: Prof. Hao Su <i>The research group of Prof. Hao Su from Computer Science and Engineering Department, University of California, San Diego, mainly working on robotics, with a special emphasis on sim-to-real manipulation.</i>	San Diego, U.S. 09/2024-
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- **Project: A Recipe for Efficient Sim-to-Real Transfer in Manipulation with Online Imitation-Pretrained World Models**
 - Led the project, built a imitation learning sim-to-real pipeline with limited real-world demonstrations on several tasks.
 - The success rates significantly outperform current widely adopted imitation learning methods.

Zhuowen Tu's Research Group (UCSD)

San Diego, U.S.

Advisor: Prof. Zhuowen Tu

01/2022-03/2024 (03/2023-09/2023 on site)

The research group of Prof. Zhuowen Tu from Cognitive Science Department, University of California, San Diego, mainly working on computer vision, with a special emphasis on generative models.

- **Project: Diffusion Layout Transformers without Autoencoder**

- Led the project, built a Transformer-based diffusion model pipeline that can directly operate the inputs in the original space to generate document layouts.
- The Model outperformed the state-of-the-art model across several different metrics.
- Corresponding paper was accepted at ECCV 2024.

- **Project: Dual-stage Integration for Conditional Image Generation**

- Led the project, developed a two-stage pipeline that can not only use a single model to generate images similar to ControlNet with textual inversion technique in the second stage, but also generate the corresponding control features from the first stage with a single model.
- The model can achieve similar performance with the task-separated models of ControlNet.
- Corresponding paper was accepted at GCV workshop of CVPR2024.

- **Project: Grounding Diffusion with Token-level Supervision**

Help a senior student with his project on finetuning the SD Model in order to achieve better performance in generating the objects required in the prompts. Corresponding paper was accepted at CVPR 2024.

- **Project: Bayesian Diffusion Models for 3D Shape Reconstruction**

Help another student with his project on adding priors to 3D diffusion models. Corresponding paper was accepted at CVPR 2024.

Fei Jiang's Research Group (UCSF)

San Francisco, U.S.

Advisor: Prof. Fei Jiang & Prof. Srikantan Nagarajan

12/2022-02/2023 (remote)

The research group of Prof. Fei Jiang from University of California, San Francisco, mainly working on machine learning methods, high dimensional models, functional data analysis and their applications in analyzing neurological, image, genetics data, and in designing adaptive randomization clinical trials.

- **Project: Tinnitus Detection Based On FMRI Image**

- Helped a post-doc researcher with his project on detecting tinnitus based on FMRI images using statistical methods.
- Aligned the data from different sources, raised an improved statistical algorithm for tinnitus detection and implemented it with Python, which outperformed the currently employed method.

WORK EXPERIENCE

Hillbot Inc. **06/2024-09/2024 (Beijing, China) & 06/2025-09/2025 (San Diego, U.S.)**

Worked as a research intern, helped to develop reinforcement learning and imitation learning pipelines for several real-world manipulation tasks.

OTHER PROJECTS

Computer Graphics Path Tracing

IIS, Tsinghua University

Course project of the course *Advanced Computer Graphics*

Implement a path tracing algorithm with following aspects: (1) Accelerate structure based on KD-Tree; (2) Some special scenes and materials including depth of field, anti-aliasing, transmissive material, frosted glass and some composed materials; (3) Some sampling methods including light-source sampling, BRDF importance sampling and multi-importance sampling.

The project is written in GLSL and received A+ in the final grading.

SKILLS

Programming Languages: Python, C/C++, GLSL, Verilog, Assembly language (Risc-V)

Languages: Chinese, Cantonese, English

AWARDS

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| • Athletic Scholarship of Tsinghua University | 2021, 2022, 2023 |
| • Freshmen Scholarship of Tsinghua University | 2020 |
| • Gold medal (national selection team), 35th China Mathematical Olympiad (CMO) | 2019 |

OTHER ACTIVITIES

- Captain and key player of IIS football team
- Member of Tsinghua University football team (for none football special students)
- Member of IIS swimming team and badminton team