Ziyang Xie

Linkedin: Ziyang-Xie | Github: github.com/ZiYang-xie | Email: ziyangxie01@gmail.com | Page: https://ziyangxie.site/

EDUCATION

University of Illinois Urbana-Champaign | *Master of Science in Computer Science* Aug. 2023 – May. 2025

Fudan University | *Bachelor of Science in Computer Science* Sept. 2019 – Jul. 2023

RESEARCH EXPERIENCES

Research Assistant ***University of Illinois Urbana-Champaign (UIUC)***

Yu-Xiong Wang's group *Jun. 2022 - Present*

- Developed a cutting-edge offboard high-definition (HD) maps generation model for autonomous vehicles.
- Pioneered the use of an uncertainty fusion pipeline that leverage geometric data from Voxel-NeRF to fuse local maps into a more accurate and consistent long-range map.
- Conducted extensive experiments to validate the effectiveness of the MV-Map model, demonstrating a remarkable improvement of over 25% in the quality of generated HD-Maps.
- Provided an invaluable opportunity to contribute to the advancement of autonomous navigation technologies and to collaborate with leading researchers in Self-Driving Navigation and Robotics.

Research Assistant ***Fudan University***

Fudan Zhang Vision Group *Jan. 2022 - May. 2022*

- Pioneered street-view NeRF (S-NeRF) approach that jointly synthesizes background scenes and foreground vehicles, outperforming state-of-the-art methods.
- Reduced mean-squared error by 7~40% on street-view synthesis compared to existing techniques by thorough experiments.
- Proposed innovations have wide applications including self-driving simulation, large-scale 3D scene modeling, video game development, and VR/AR.

PUBLICATIONS

- **MV-Map: Offboard HD-Map Generation with Multi-view Consistency** **ICCV, 2023**
  Ziyang Xie*, Ziqi Pang*, Yu-Xiong Wang,
- **S-NeRF: Neural Radiance Fields for Street Views** **ICLR, 2023**
  Ziyang Xie*, Junge Zhang*, Wenye Li, Feihu Zhang, Li Zhang

INDUSTRY INTERNSHIP

SenseTime Computer Vision Researcher Feb. 2022 - July. 2022

- Led cutting-edge research applying Neural Radiance Fields for self-driving simulation, enabling development of prototype that enhanced 3D object detection.
- Designed and optimize a multi-modality 3D object detection algorithm combining LiDAR point clouds and RGB images, improving detection precision by 20%.
- Collaborated with cross-functional engineering teams to integrate research learnings into enterprise product roadmaps, accelerating development cycles by ~4 weeks.

PERSONAL PROJECT

GoStudy Application (Software Engineering)

- Designed and developed a comprehensive mobile app enabling students to efficiently plan schedules, locate available classrooms, and manage study sessions.
- Implemented RESTful APIs and Redis caching to ensure seamless communication between frontend and backend and accelerate data retrieval by 60%
- Leveraged Nginx and Kubernetes for load balancing and autoscaling, supporting over 50K concurrent users with <100ms response times
- Architected full-stack platform from ground up, including algorithms, backend servers, database design, computer networks, frontend and UX.

SKILLS

Programming Languages: Python, C/C++, Cuda, JavaScript, TypeScript, GoLang, Rust

Libraries: PyTorch, Transformers, Diffusers, Torch-Vision, Numpy, Einops, Pandas, Vue, React