Ziyang Xie

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EDUCATION

University of California, Los Angeles — Los Angeles, CA
Incoming Computer Science PhD Student at Bolei Zhou's group — *Sep. 2025 expected*

University of Illinois Urbana-Champaign — Champaign, IL
Master of Science in Computer Science (MSCS) | GPA: 4.0/4.0 — *Aug. 2023 – May 2025*

Fudan Univeristy — Shanghai, China
Bachelor of Science in Computer Science | GPA: 3.54/4.0 — *Sep. 2019 – June 2023*

PUBLICATIONS

Vid2Sim: Realistic and Interactive Simulation from Video for Urban Navigation — CVPR, 2025
Ziyang Xie, Zhizheng Liu, Zhenghao Peng, Wayne Wu, Bolei Zhou

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

Frozen transformers in language models are effective visual encoder layers — ICLR, 2024 (Spotlight*)
Ziqi Pang, Ziyang Xie*, Yunze Man*, Yu-Xiong Wang

S-NeRF++: Autonomous Driving Simulation via Neural Reconstruction and Generation — TPAMI 2025
Yurui Chen, Junge Zhang, Ziyang Xie, Wenye Li, Feihu Zhang, Jiachen Lu, Li Zhang

Brain3D: Generating 3D Objects from fMRI — Preprint
Yuankun Yang, Li Zhang, Ziyang Xie, Zhiyuan Yuan, Jianfeng Feng, Xiatian Zhu, Yu-Gang Jiang

SELECTED RESEARCH EXPERIENCE

University of California, Los Angeles — May. 2024 – Nov. 2024
Vid2Sim: Realistic and Interactive Simulation from Video for Urban Navigation — *Advisor: Prof. Bolei Zhou*

- Developed a comprehensive pipeline that can convert casual monocular videos into photo-realistic and physical interactive simulation for RL agents training.
- Conducted both simulation and real-world experiments to show that Vid2Sim can significantly reduce the Sim-to-Real gap and improve the success rate of urban navigation in the real world by 68.3% compared with agents trained with prior simulation methods.

University of Illinois Urbana-Champaign — Sep. 2022 – July. 2023
MV-Map: Offboard HD-Map Generation with Multi-view Consistency — *Advisor: Prof. Yuxiong Wang*

- Proposed a novel uncertainty-based offboard HD-Map generation pipeline that enhances HD-Map generation quality by ensuring multi-view consistency with neural reconstruction.
- Demonstrated strong compatibility with any online HD-Map generation method and can work in a plug-and-play manner to achieve consistent performance gain over 15%.

Fudan Univeristy — Jan. 2022 – Aug 2022
S-NeRF: Neural Radiance Fields for Street Views — *Advisor: Prof. Li Zhang*

- Proposed the first pipeline to reconstruct high-quality unbounded self-driving scenes and foreground moving vehicles with neural radiance field on public self-driving datasets.
- Developed a robust method for high-quality scene reconstruction with confidence-based dense depth supervision and achieved 21% and 45% PSNR gain for the background static scene and foreground moving vehicles rendering.

WORK EXPERIENCE

SenseTime Autonomous Driving Research Intern — 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 optimized a multi-modality 3D object detection algorithm combining LiDAR point clouds and RGB images, improving detection precision by 20%.

Awards

Fudan University Outstanding Graduate (Ranking: 6/101)	Jun. 2023
Hui-Chun Chin and Tsung-Dao Lee Chinese Undergraduate Research Endowment Researcher	July. 2021
Fudan University Excellent Student	Sep. 2020
Fudan University Student Professional Minor Scholarship (Ranking: 8/101)	Sep. 2020

Skills

Programming Languages: Python, C++, C, Typescript

Machine Learning: PyTorch, Huggingface, Transformers, Diffusers, Scikit-Learn, Stable-Baselines3

Computer Vision: SfM, Gaussian Splatting, NeRF, Differentiable Rendering, OpenCV, Open3D, Pytorch3D

Simulation: NVIDIA Isaac Sim, Blender, Unity, OpenGL