Ziyue Feng

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Education

- **Clemson University** — SC, USA
  Ph.D. Degree — *Aug 2019 - Dec 2024*
- **Clemson University** — SC, USA
  Master-en-route Degree — *Aug 2019 - Aug 2023*
- **Xi'an Jiaotong University** — Xi'an, China
  Bachelor's Degree — *Aug 2015 - Jun 2019*

Selected Publications

- **Ziyue Feng**, Huangying Zhan, etc.. "NARUTO: Neural Active Reconstruction from Uncertain Target Observations", (Active NeRF style 3D Reconstruction. **CVPR 2024**.)
- **Ziyue Feng**, Leon Yang, Pengsheng Guo, Bing Li. "CVRecon: Rethinking 3D Geometric Feature Learning for Neural Reconstruction" (Proposed a novel 3D geometric feature learning paradigm for neural reconstruction based on improved cost volumes. **ICCV 2023**.)
- **Ziyue Feng**, Liang Yang, Longlong Jing, Haiyan Wang, YingLi Tian, and Bing Li. "Disentangling Object Motion and Occlusion for Unsupervised Multi-frame Monocular Depth", **ECCV 2022** (2/3 of reviews are **strong accept**).
- **Ziyue Feng**, Longlong Jing, Peng Yin, Yingli Tian, Bing Li. "Advancing Self-supervised Monocular Depth Learning with Sparse LiDAR", **CoRL 2021**.
- **Ziyue Feng**, Shitao Chen, Yu Chen, Nanning Zheng. "Model-based decision making with imagination for autonomous parking", IEEE IV 2018.
- P Yin, L Xu, **Z Feng**, A Egorov, B Li. "PSE-Match: A Viewpoint-Free Place Recognition Method With Parallel Semantic Embedding", IEEE Transactions on Intelligent Transportation Systems.
- Weihan Wang, Chieh Chou, Ganesh Sevagamoorthy, Kevin Chen, Zheng Chen, **Ziyue Feng**, Youjie Xia, Feiyang Cai, Yi Xu, Philippos Mordohai. "Stereo-nec: Enhancing stereo visual-inertial slam initialization with normal epipolar constraints", IEEE International Conference on Robotics and Automation (**ICRA 2024**).
- Zheng Chen, Qingan Yan, Huangying Zhan, Changjiang Cai, Xiangyu Xu, Yuzhong Huang, Weihan Wang, **Ziyue Feng**, Lantao Liu, Yi Xu. "Planarnerf: Online learning of planar primitives with neural radiance fields", IEEE International Conference on Robotics and Automation (**ICRA 2025**).

Experience & Selected Research Projects

- **Apple** — San Diego, CA
  Multimodal Generative Modeling Engineer. — *Oct 2024 - Present*
  - **Multimodal generative modeling**: Multimodal/Video generative AI models.
- **Matterport** — Sunnyvale, CA
  Senior Machine Learning Engineer. — *Apr 2024 - Aug 2024*
  - **3D Computer Vision & Gen AI**: Reconstructing, understanding, and synthesizing 3D scene. https://matterport.com/blog/bringing-generative-ai-to-digital-twins-matterports-three-pillars-of-ai.
- **Google Research Intern** — San Francisco, CA
  Research Intern in Project Starline. — *Sep 2023 - Dec 2023*
  - **Project Starline**: Working with Clément Godard http://www0.cs.ucl.ac.uk/staff/c.godard/ and Lynn Tsai on Google Project Starline https://blog.google/technology/research/project-starline/ in the field of 3D Computer Vision.
- **OPPO US Research Center** — Palo Alto, CA
  Research Intern focused on Active Neural SLAM — *Jun 2023 - Aug 2023*

- **Active NeRF-based SLAM**: Worked with Huangying Zhan https://huangying-zhan.github.io/ to enable embodied intelligent agents to automatically explore, localize, reconstruct, and plan in unknown environments. Published on **CVPR 2024**.

- **Clemson University** Greenville, SC
  Ph.D. Student & Research Assistant focused on 3D Computer Vision *Aug 2019 - Jun 2023*
  - **CVRecon** https://cvrecon.ziyue.cool
    Worked with Eric Yang at Apple to propose a novel 3D geometric feature learning paradigm for neural reconstruction based on improved cost volumes. Published on **ICCV 2023**.
  - **Dynamic Depth** https://sites.google.com/view/dynamicdepth
    Worked with Eric Yang at Apple to propose a self-supervised multi-frame monocular depth prediction model dedicated to solving the dynamic objects' motion and occlusion problems. Achieves State-of-the-Art performance on the KITTI and Cityscapes dataset, especially in dynamic object areas. Published on **ECCV 2022**.
  - **Fusion Depth** https://github.com/AutoAILab/FusionDepth
    Worked with Longlong Jing at Waymo to leverage the sparse LiDAR to improve the self-supervised monocular depth prediction accuracy. Reduced half of the depth error with a 4-beam LiDAR, obtained SOTA performance on the KITTI 'Depth Prediction', 'Depth Completion', and the 'Monocular 3D Detection' tasks. Published on **CoRL 2021**.

- **MEGVII(Face++) Research**
  Research Intern, Mentor: Donghao Liu. *Jan 2019 - May 2019*
  - **Gaze Estimation**: We designed a GAN (Generative Adversarial Network) model to alleviate the domain shift of the gaze images from different persons, improving the gaze estimation accuracy for the driver monitoring system.

- **Institute of Artificial Intelligence and Robotics (IAIR at XJTU)** Xi'an, China
  Research Intern, Advisor: Prof. Nanning Zheng. *Oct 2016 - Jan 2019*
  - **Autonomous Parking**: https://github.com/fengziyue/RRT-Parking
    Proposed an 'imaginative' module to improve the RRT-based parking path planning and a kinematic-aware smoothing module to refine the planned path. Published on IEEE IV 2018.

Services

- Reviewer for ICLR 2025, ICML 2025, ICRA 2025, CVPR 2024, NeurIPS 2024, CoRL 2022-2024, IROS 2023, RA-L 2023-2025, IEEE Transactions on Multimedia, IEEE Transactions on Image Processing, IEEE Transactions on Intelligent Vehicles, Journal of Robotics, Et al.