Mingjie Pan

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Education

Peking University (PKU) **Sept 2021 – Sept 2024 (Expected)**
MSc in Software Engineering *Beijing, China*

University of Electronic Science and Technology of China (UESTC) **Sept 2017 – June 2021**
BEng in Electrical Engineering *Chengdu, China*

Publications

Mingjie Pan, Yulu Gan, Fangxu Zhou, Jiaming Liu, ying zhang, Aimin Wang, Shanghang Zhang, Dawei Li, "DiffuseIR: Diffusion Models For Isotropic Reconstruction of 3D Microscopic Images." **MICCAI 2023**

Yulu Gan*, **Mingjie Pan***, Rongyu Zhang, Zijian Ling, Lingran Zhao, Jiaming Liu, Shanghang Zhang. "Cloud-Device Collaborative Adaptation to Continual Changing Environments in the Real-world." **CVPR 2023**

Mingjie Pan, Li Liu, Jiaming Liu, Peixiang Huang, Longlong Wang, Shanghang Zhang, Kuiyuan Yang. "UniOcc: Unifying Vision-Centric 3D Occupancy Prediction with Geometric and Semantic Rendering." **Arxiv 2023** (Preprint)

Senqiao Yang, Jiarui Wu, Jiaming Liu, Xiaoqi Li, Qizhe Zhang, **Mingjie Pan**, Shanghang Zhang. "Exploring sparse visual prompt for cross-domain semantic segmentation." **Arxiv 2023** (Preprint)

Experience

Megvii **Oct 2021 – May 2022**
Engineering Intern *Beijing, China*

- Autonomous Driving Perception: Develop bird's-eye-view (BEV) perception algorithms, including visual 3D detection and multi-sensor fusion. Perform large-scale pre-training through self-supervised depth estimation.

Huawei **Jun 2022 – Aug 2022**
Research Intern *Beijing, China*

- 3D Domain Adaptation: Proposed a 2D-3D consistency constraint to alleviate the depth shift problem of 3D vision models during cross-domain testing.

Peking University **Oct 2022 – Present**
Reaserch Assistant *Beijing, China*

- Test-Time Adaptation: With the proposed cloud-device collaboration and prompt-tuning methods, we assist device models in coping with continuously changing environments, with low costs. (CVPR 2023)
- Image Generation/Reconstruction: We propose an unsupervised and robust isotropic reconstruction method based on diffusion models, capable of handling arbitrary resolutions. (MICCAI 2023)

Xiaomi Car **Apr 2023 – Present**
Engineering Intern *Beijing, China*

- 3D Occupancy Prediction: We introduce a novel training paradigm that bridges the gap between 3D voxel and 2D pixel representations using volume rendering of NeRFs, leveraging supervision from 2D labels. Our approach achieves 51.27% mIoU with a single model, ranking 3rd in the competition.(CVPR 2023 Challenge)

Selected Awards

- 3rd Prize of CVPR 2023 Challenge - Vision-Centric 3D Occupancy Prediction, May 2023 (Team leader)
- Silver medal (12th/1506) at Kaggle, Sartorius - Cell Instance Segmentation, Apr 2022 (Team leader)
- Finalist Award (Top 0.5% of 27149) at MCM/ICM, June 2020 (Team leader)
- 1st Prize at RoboMaster, Mainland China Regional Competition, June 2020 (Team leader)
- 2nd Prize at National Undergraduate Electronic Design Contest, Automatic quadcopter, Sept 2019 (Team leader)
- Outstanding Graduate Special Scholarship (×2), 2018 – 2019