

CHENSHENG PENG

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EDUCATION

Shanghai Jiao Tong University (SJTU)

Shanghai, China

BEng in Electrical and Computer Engineering

Sep. 2019 – Jun. 2023 (expected)

- GPA: 3.84/4.00 (rank 1/87)
- Selected awards: Shanghai Scholarship (top 3%, awarded to those with outstanding academic performance), Zhiyuan Honor Scholarship (top 5% of Zhiyuan Honors Program in Shanghai Jiao Tong University)
- Awarded the outstanding prize in National College Students' Innovation Program of China (top 5%)

SELECTED PUBLICATIONS / PREPRINTS

1. **Interactive Multi-scale Fusion of 2D and 3D Features for Multi-object Tracking**, accepted by IEEE *T-ITS*
G. Wang*, C. Peng*, J. Zhang, and H. Wang (* indicates equal contributions)
2. **Efficient Scene Flow Learning for Large-scale 3D Point Clouds**, under review by IEEE *CVPR*
C. Peng, G. Wang, X. Lo, C. Xu, M. Tomizuka, W. Zhan, and H. Wang

RESEARCH EXPERIENCE

University of California, Berkeley (Autonomous Driving Group of MSC Lab)

Berkeley, USA

Research Intern to Prof. Masayoshi Tomizuka (Professor, IEEE Fellow, ASME Fellow)

Mar. 2022 – Nov. 2022

Efficient Processing of Large-Scale Point Clouds

- Conducted research on the efficient processing of large-scale point clouds in autonomous driving.
- Achieved scene flow prediction from large-scale point clouds by greatly reducing the computational complexity.
- Realized real-time processing of dense point clouds with a novel form and a kernel-based grouping technique.
- Proposed a hierarchical network, outperforming recent methods both in effectiveness and efficiency.

Shanghai Jiao Tong University (John Hopcroft Center for Computer Science)

Shanghai, China

Research Assistant to Prof. Nanyang Ye (Assistant Professor from Dept. of Computer Science)

Nov. 2021 – Feb. 2022

Latency Reduction and Out-of-Distribution (OoD) Generalization

- Searched for efficient structures of neural networks for feature extraction using Neural Architecture Search.
- Added latency constraint to the traditional DARTs method such that the running time can be reduced.
- Proposed a Stochastic Disturbance Learning (SDL) algorithm to deal with different types of distribution shifts.
- Achieved excellent performance on OoD dataset and the paper has been accepted by AAAI 2023.

Shanghai Jiao Tong University (Intelligent Robotics and Machine Vision Lab)

Shanghai, China

Group Leader to Prof. Hesheng Wang (Professor, general chair of IEEE/RSJ IROS 2025)

Nov. 2020 – Oct. 2021

Multiple Object Tracking based on Camera-LiDAR Fusion

- Led the group and collaborated with members to conduct research in object detection and tracking.
- Fused the features from multiple sensors to improve the performance of multi-object tracking.
- Realized effective soft feature fusion by exploring the spatial relation between LiDAR points and image pixels.
- Achieved higher tracking accuracy than other baselines and the paper has been accepted by IEEE T-ITS.

PROJECT EXPERIENCE

ByteDance Android Mobile Development Competition (Tiktok Company, China)

Shanghai, China

Android App Development

Oct. 2021 – Dec. 2021

- Developed an App similar to TikTok (can play videos, take photos and share them) using Kotlin and Java.
- Entered the final competition and won third prize.

DJI RoboMaster Competition (DJI Company, China)

Shanghai, China

Embedded System Development

Nov. 2019 – Jan. 2020

- Designed, assembled, and controlled a robotic car to complete specified tasks, such as item picking, etc.
- Entered the final competition and won first prize.

ADDITIONAL INFORMATION

Interests:

Efficient point cloud processing, object detection and tracking, autonomous driving, swimming, tennis and guitar.

Computer Skills:

Proficient with Python, C / C++, Java, Kotlin and familiar with the machine learning framework PyTorch.

Languages: Chinese (native), English (fluent)