

# LAN FENG

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## PROFESSIONAL SUMMARY

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Innovative and results-oriented Robotics Engineer with a strong background in deep learning, earned a Master's degree at ETH Zurich. Specializes in AI-driven autonomous systems, with a focus on trajectory prediction, data-driven traffic simulation, reinforcement learning, and human-robot interaction. Proven track record of academic excellence and impactful research contributions, including multiple publications in top-tier conferences.

## EDUCATION

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**Master of Science in Robotics, Systems, and Control**, ETH Zurich 2021 - 2023

Key Courses: Probabilistic Artificial Intelligence, Perception and Learning for Robotics, Computational Models of Motion

Overall GPA: 5.67 / 6.00

**Bachelor of Engineering in Navigation Engineering**, Wuhan University 2016 - 2020

Honors: National Scholarship, Graduated with College Honors

Overall GPA: 3.88 / 4.00 (Ranking: 2nd out of 50)

## PUBLICATIONS

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1. **Lan Feng\***, Sammy Christen\*, Wei Yang, Yu-Wei Chao, Otmar Hilliges, and Jie Song. "SynH2R: Synthesizing Hand-Object Motions for Learning Human-to-Robot Handovers." *IEEE International Conference on Robotics and Automation (ICRA 24)*.
2. **Lan Feng\***, Quanyi Li\*, Zhenghao Peng\*, Zhizheng Liu, Chenda Duan, Wenjie Mo, and Bolei Zhou. "ScenarioNet: Open-Source Platform for Large-Scale Traffic Scenario Simulation and Modeling." *Neural Information Processing Systems, Dataset & Benchmark Track (NeurIPS 23)*.
3. **Lan Feng\***, Quanyi Li\*, Zhenghao Peng\*, Shuhan Liu, Bolei Zhou. "TrafficGen: Learning to Generate Diverse and Realistic Traffic Scenarios." *IEEE International Conference on Robotics and Automation (ICRA 23)*.
4. **Lan Feng**, Sammy Christen, Jie Song. "Controllable Human Grasp Generation." *European Conference on Computer Vision (ECCV 22 workshop)*.
5. Quanyi Li\*, Zhenghao Peng\*, **Lan Feng**, Zhenghai Xue, Qihang Zhang, Bolei Zhou. "MetaDrive: Composing Diverse Driving Scenarios for Generalizable Reinforcement Learning." *IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI 22)*.
6. Quanyi Li, Zhenghao Peng, Haibin Wu, **Lan Feng**, Bolei Zhou. "Human-AI Shared Control via Frequency-based Policy Dissection." *Advances in Neural Information Processing Systems (NeurIPS 22)*.
7. **Lan Feng\***, Qihang Zhang\*, Yicheng Liu, Fan Li, Gang Sun, Chunxiao Liu, Bolei Zhou. "IP-MMT: Interaction Prediction via MultiModal Transformer." *Computer Vision and Pattern Recognition Conference Workshop (CVPR workshop 21)*.

(\* indicates joint first authors)

## EXPERIENCE

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**Visual Intelligence for Transportation Lab (VITA), EPFL**

Oct 2023 - Apr 2024

Internship (Supervisor: [Alexandre Alahi](#))

- Developed UniTraj: a unified framework for cross-dataset generalization in trajectory prediction.
- Benchmarked various prediction models across multiple autonomous vehicle datasets, providing critical performance insights on prediction models' cross-dataset generalizability.

- Achieved SOTA performance for baseline models with data-centric methods.

## Advanced Interactive Technologies Lab (AIT), ETH Zurich

Feb 2022 - Sep 2023

Semester Project & Master Thesis (Supervisor: [Otmar Hilliges](#))

- Engineered an innovative RL-based algorithm for dexterous hand grasp, contributing to the advancement of robotic manipulation.
- Enhanced the generalizability and controllability of current state-of-the-art models, resulting in two significant publications: [SynH2R](#) and [GraspGen](#).

## Multimedia Lab (MMLab), CUHK

Oct 2021 - Jul 2022

Research Assistant (Supervisor: [Bolei Zhou](#))

- Contributed to the development of [MetaDriverse](#): pioneering research in AI for generalizable machine autonomy.
- Led data-driven aspects of MetaDriverse, culminating in several key publications including [ScenarioNet](#), [TrafficGen](#), [PolicyDissect](#), and [MetaDrive](#).

## Autonomous Systems Lab (ASL), ETH

Mar 2022 - Jul 2022

Course Project (Supervisor: [Daniel Dugas](#))

- Implemented unsupervised representations for reinforcement learning in robot navigation, advancing autonomous pathfinding.
- Developed an innovative world model that simulates forward in the feature space, enhancing navigation performance by 20% over traditional models.

## SenseTime Technology Co. Ltd.

Nov 2020 - Aug 2021

R&D Internship (Supervisor: [Chunxiao Liu](#))

- Developed Sunflower, an RL-based self-driving simulation platform integrating SUMO and RLlib, pushing forward in simulated autonomous driving research.
- Applied safe RL algorithms and attention mechanisms to simulated agents, achieving an 80% reduction in collision rates.
- Contributed to the Waymo Open Challenge; secured 3rd and 1st place in motion and interaction prediction respectively, with awards of \$2,000 and \$15,000; invited to the CVPR workshop 2021.

## TECHNICAL SKILLS

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### Programming Languages

Python, C++

### Machine Learning

RLlib, PyTorch-Lightning, WandB

### Robotics

Isaac Gym, RaiSim, MANO

### Development Tools

Vim, Git, LaTeX, Docker, Kubernetes

### Language Proficiency

GRE: 334 (Verbal: 164, Quantitative: 170), IELTS: 7.5