LAN FENG

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PROFESSIONAL SUMMARY

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

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

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." *Arxiv*.
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

Visual Intelligence for Transportation Lab (VITA), EPFL Oct 2023 - Apr 2024
Internship (Supervisor: Alexandre Alahi)

- Developed a unified cross-dataset trajectory prediction framework, enhancing predictive accuracy and dataset versatility.
- Benchmarked various prediction models across multiple autonomous vehicle datasets, providing critical performance insights.

- Designed a novel method that leverages Elastic Weight Consolidation to better fine-tune a prediction model on new datasets

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

Programming Languages	Python, C++
Machine Learning	RLlib, PyTorch-Lightning, WandB
Simulation	Isaac Gym, RaiSim
Development Tools	PyCharm, Vim, Git, LaTeX, Docker
Language Proficiency	GRE: 334 (Verbal: 164, Quantitative: 170), IELTS: 7.5