

# ZHIXUAN, LIANG

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Personal Page: <https://liang-zx.github.io> GitHub: <https://github.com/Liang-ZX>

## EDUCATION

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**The University of Hong Kong** Hong Kong SAR Sep. 2022-Present

Ph.D. in Computer Science at Department of Computer Science

- Adviser: [Prof. Ping Luo](#) (Primary) and [Prof. Wenping Wang](#) (IEEE Fellow and ACM Fellow)
- **Hong Kong PhD Fellowship Scheme (HKPFS)**

**Zhejiang University** Hangzhou, China Sep. 2017-Jul. 2021

B.Eng. in Automation at College of Electrical Engineering

- GPA: **90.62/100 (3.98/4.0)** | Ranking: **1/100 (Top 1%)**
- Honors Minor: Advanced Class of Engineering Education, **Chu Kochen Honors College**

## RESEARCH EXPERIENCES

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**HKU-MMLAB, The University of Hong Kong** Hong Kong SAR Sept. 2022-Present

Research Student; Advisor: [Prof. Ping Luo](#)

Topic: Diffusion Model for Planning

- I conducted researches on diffusion model-based task execution to enhance the generalizability and adaptability of planning algorithms, with two papers in ICML 2023 and one in CVPR 2024.

**SenseTime Research, SenseTime Group Ltd.**

Shanghai, China

Jun. 2021-Jul. 2022

Research Intern; Mentor: [Dr. Xingyu Zeng](#) and [Dr. Rui Zhao](#); Active Learning on Deep Object Detection

- I proposed a Mean Average Precision guided reinforced active learning method for object detection.

**Department of Radiology, University of Washington**

Seattle, WA, US

Jun. 2020-Oct. 2020

Research Assistant; Advisor: [Prof. Chun Yuan](#);

Topic: Multi-timepoint Registration of Knee MRI

- I designed an automatic and robust algorithm for multi-timepoint registration of popliteal artery to assist in summarizing the pattern of popliteal atherosclerotic plaque with one paper in ISMRM 2021.

## PUBLICATIONS

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1. SkillDiffuser: Interpretable Hierarchical Planning via Skill Abstractions in Diffusion-Based Task Execution.  
**Zhixuan Liang**, Yao Mu, Hengbo Ma, Masayoshi Tomizuka, Mingyu Ding, Ping Luo.  
*IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR)* 2024. [[paper](#)] [[website](#)]
2. AdaptDiffuser: Diffusion Models as Adaptive Self-evolving Planners.  
**Zhixuan Liang**, Yao Mu, Mingyu Ding, Fei Ni, Masayoshi Tomizuka, Ping Luo.  
*International Conference on Machine Learning (ICML)*. PMLR, 2023. (**Oral**) [[paper](#)] [[website](#)]
3. MetaDiffuser: Diffusion Model as Conditional Planner for Offline Meta-RL.  
Fei Ni, Jianye Hao, Yao Mu, Yifu Yuan, Yan Zheng, Bin Wang, **Zhixuan Liang**.  
*International Conference on Machine Learning (ICML)*. PMLR, 2023. [[paper](#)] [[website](#)]
4. MeanAP-Guided Reinforced Active Learning for Object Detection.  
**Zhixuan Liang**, Xingyu Zeng, Rui Zhao and Ping Luo.  
*Technical Report*, 2023 [[paper](#)]
5. Longitudinal Registration of Knee MRI Based on Femoral and Tibial Alignment.  
**Zhixuan Liang**, Yin Guo and Chun Yuan.  
*International Society for Magnetic Resonance in Medicine Annual Meeting (ISMRM)*, 2021. [[paper](#)]

## AWARDS & HONORS

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### Scholarship

- **Hong Kong PhD Fellowship Scheme (HKPFS)** (*Top 300 PhD students in HK per year*) 2022
- **HKU Presidential PhD Scholarship (HKU-PS)** 2022
- Y S and Christabel Lung Postgraduate Scholarship 2022
- **National Scholarship** (*Top 0.2% across China*) 2020
- **Wang Guosong Dean's Award** (*Highest Award at College of EE, Zhejiang University*) 2021
- Outstanding Graduate in Zhejiang Province 2021
- Zhejiang University Scholarship – First Prize (**Top 3%**) (*3 Times*) 2018 & 2019 & 2020

### Academic Competitions Awards

- **Finalist Award**, Mathematical Contest in Modeling (**Top 2%** in 20,954 teams) Apr. 2020
- First Prize, Mathematics Competition of Chinese College Students Nov. 2019

## PROJECTS

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### Path Planning and SLAM for Wheeled Robots with ROS Mar. 2021-May. 2021

College of Control Science and Engineering, Zhejiang University Hangzhou, China

Adviser: *Prof. Yue Wang* Project Address: [https://github.com/Liang-ZX/ros\\_wheeled\\_robot.git](https://github.com/Liang-ZX/ros_wheeled_robot.git)

### Key Technologies of Lightweight Image Super-Resolution Algorithm Jan. 2021-Jun. 2021

College of Electrical and Engineering, Zhejiang University Hangzhou, China

Project Address: <https://github.com/Liang-ZX/EDSR-PyTorch>

- We proposed a low-level adaptive attention module, enhanced channel-split residual block and graduated feature fusion mechanism to constitute a new light-weight super resolution network.

## SKILLS & LANGUAGE & ACTIVITIES

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- Programming Skills: C/C++, Python, MATLAB, Risc-V, SQL
- Data Structures and Algorithms; Computer Architecture; Operating System; Robotics;
- Framework and Tools: Lingo, OpenCV, Pytorch, ROS, LaTeX, Git, Qt