Weixian Shi

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▬▬▬ Education

| 2019 - 2022 | **MSc, University of Bonn** | Computer Science, Germany, English |
| 2014 - 2018 | **BSc, Shandong University** | Software Engineering, China, Bilingual |

▬▬▬ Work

2021 - 2022	**Humanoid Robots Lab**	Student research assistant
2020 - 2022	**Fraunhofer IAIS**	Software engineer
2017 - 2022	**Zhuhai Guangge Technology**	Software engineer
2017 - 2017	**JD.com**	Java developer intern

▬▬▬ Research Projects

Subgoal-driven robot navigation in indoor environments

- Master thesis project, with **project link** available.
  - A hierarchical navigation framework for a lidar equipped robot navigating in indoor environments with unknown static obstacles and pedestrians.
  - The high-level agent predicts subgoal position for next fixed time period, while the low-level agent aims to achieve the subgoal.
  - The result will be rearranged and submitted to ICRA 2023.
- **techniques**: Deep reinforcement learning (DDPG, TD3), Pybullet, ROS, Python, C++

Enhanced Spatial Attention Graph for Motion Planning in Crowded, Partially Observable Environments

- Paper accepted by **ICRA 2022**, with **link** available.
  - Propose a new neural network based on reinforcement learning for human-aware partially observable environments.
  - This approach outperforms the previous state-of-the-art methods.
- **techniques**: Deep reinforcement learning (Double DQN, imitation learning), Python

▬▬▬ Software Development Work projects

Investment relation map for JD stock app

- Company: JD.com
- A Spring project providing data for JD stock app.
- Integrate data from multiple MySQL databases, find and aggregate the relationship between major shareholders and companies in massive data, and store the results in Redis.
- **Learned**: Quickly and efficiently aggregate useful information from large amounts of data.

Web match system for electronic laser shooting sports events

- Company: Zhuhai Guangge Technology
- A web-based match system to hold sports matches, collect scores from Android app and display the real-time ranking information.
- Separating the system into several modules, in which Spring cloud is used to help communicate with each other.
- Websocket is used to maintain the messaging between frontend, Java backend and Android app.
- **Learned**: Spring boot, Vue.js, Websocket, Mysql, Redis, MongoDB

Android APP of laser shooting systems for sporting events

- Company: Zhuhai Guangge Technology
- An app for middle school student-athletes that receives hardware device data via Bluetooth, and visualizes laser transmitter firing positions, trigger pressure data, etc.
- This app can receive and parse data from different types of hardware devices.
- In addition, synchronous backup of data is also implemented based on socket and http, as well as its use in competition scenarios.
- **Learned**: Android, Bluetooth, Socket, Http

Other information

- Github: `https://github.com/weixians`
- LinkedIn: `https://in.linkedin.com/in/weixianshi-ab17b5148`
- Personal website (contain all projects): `https://weixians.github.io/about_me`

Skill Summary

- Deep Reinforcement Learning, Machine Learning, Deep Learning
- Familiar with Python, Java, Android, Git, Linux, Pytorch, Redis
- Experienced on C++, Vue.js, ROS, Tensorflow, Mysql, MongoDB
- Human Languages: Chinese (native speaker), English (fluent)
- High passion on learning new technologies
- Good team player

Publications

Shi, Weixian, et al. "Enhanced Spatial Attention Graph for Motion Planning in Crowded, Partially Observable Environments." 2022 International Conference on Robotics and Automation (ICRA). IEEE, 2022.