

LI Xiang (Leo)

xlidq@connect.ust.hk | (+86)18580710831 | <https://az123zx123.github.io/personal/>

OBJECTIVE

Undergraduate student looking for Final Year Project. Have experience in SLAM, machine learning, image processing, hardware acceleration, neuromorphic engineering, brain computer interface.

EDUCATION

The Hong Kong University of Science and Technology	HKSAR, CHINA
B.Eng. Computer Engineering GPA: 3.85/4.3(top 10%)	September 2017 – May 2021(expected)
Relevant course: Data structure and algorithm, Machine learning, Image processing, Robotic perception, neural engineering	
Honors/Awards: Deans list (every semester, for student whose GPA is above 3.8), continuing scholarship (top 10% of university), admission scholarship (HKD 70,000)	
Washington University in St. Louis	St. Louis, Missouri, USA
Exchange student	January 2020 – May 2020
Relevant course: Optimization, Control theory	

RELEVANT EXPERIENCES

Course Project:

Machine Learning and Information Processing for Robotic Perception

- Developed a SLAM system based on C++ and Python in ROS environment. Implemented visual odometry based on RGB-D camera, mapping and reconstruction based on lidar, camera and IMU data and control system based on PID.
- The robot can detect and classify specified objects like different portrait paintings in environment and label the location of detected object in constructed map. The robot can also automatically follow a target moving object in environment and try to bypass obstacles.

Statistical Signal Analysis and Applications in Neural Engineering

- Developed a prediction system that can predict the status of mouse based on EEG data. The prediction involves some machine learning methods.

Research Project:

Emulating a million neuron brain in real-time	January 2020 – Present	St. Louis, Missouri, USA
---	------------------------	--------------------------

- Developed a system that simulate and visualize an insect brain which contains millions of neurons in real-time. The system involves real-world connectome data and simulation. To accelerate the simulation, hardware acceleration such as GPU and FPGA are used.
- Used connectome data of fruit fly, we built a system that visualizes static connectome structure and dynamic properties of the connectome.

Attributes evaluation for ALS disease progression	June 2019 – November 2019	HKUST
---	---------------------------	-------

- Developed a prediction model to predict the ALS progression and the live status of the patient. Improved the performance of the prediction by 10%~20% compared to previous works.

Indoor Autonomous Driving Robots	September 2018 – May 2019	HKUST
----------------------------------	---------------------------	-------

- Developed WiFi-based indoor localization algorithm and visual-based SLAM algorithms for autonomous driving robots and evaluated with campus real data. The mapping is based on manually labelled campus map and updates key feature points in real-time mapping processing.
- Made an Android app to collect WiFi data, image data and corresponding location information in campus.

MISCELLANEOUS

- Programming languages: C++(experienced), Python(experienced), MATLAB(experienced), Verilog(basic)
- Languages: Mandarin(native), English(fluent), Cantonese(conversational)