Xiao(Barry) Liang

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SUMMARY

Seeking for an internship in 2020 (prefer online work)

- Skilled in C++/C, Python, Matlab, ROS and OpenCV. (★★★★)
- Familiar with Linux, Pytorch, Latex, CAD, Arduino, Webots and Universe Robot (★★★)
- Experienced in Cuda, OpenMP, Tensorflow and V-REP Pro. (★★)
- Fluent in English and beginner level in Japanese.
- Interdisciplinary engineer, fully trained project experience with leadership, fast learner and nice group worker.

EDUCATION

The University of Tokyo (UT), Tokyo, Japan
Member of Yamakawa Lab. (High Speed Flexible Robotics Lab)
M.S. in Mechanical Engineering (English Program) *Sept 2019 – Aug 2021 (expected)*

Shanghai Jiao Tong University（SJTU）, Shanghai, China
University of Michigan – Shanghai Jiao Tong University Joint Institute (UM-SJTU JI)
B.Sc. in Mechanical Engineering (English Program) *Sept 2015 – Aug 2019*
Overall GPA: 3.77/4.00; Major GPA: 3.93/4.00 (ranking 2/58).

COURSES HIGHLIGHTS

Coursera: Deep learning, Machine learning
UT: Robot Manipulation, Visual Media Engineering, System and Control Theory
SJTU: Dynamics and Vibrations, Linear Algebra, Automatic Control, Robotics

RESEARCH EXPERIENCE

Control of Dual-Arm Diabolo Robot based on Flexible Manipulation and Visual Feedback
Yamakawa Laboratory (High Speed Flexible Robotics Lab) @UT *June 2020 –present*
• Apply visual feedback to measure the 6D pose of diabolo in real time.
• achieve basic spinning balance and tosses of the diabolo using dual-arm control

Design and Analysis of a Wheel-Leg Hybrid Robot with Novel Transformation Mechanism
Laboratory of Smart Solids and Structures @SJTU *June 2018 – Sept 2018*
• Designed a vehicle robot with actively transformed three-leg wheels
• Conducted automatic control of wheel-transformation to pass through sand road and smooth road

SELECTED PROJECTS

Recognition and Catching of a Thrown Ring using High-Speed Vision
Robomech Conference @Japan *Feb 2020 – May 2020*
• Proposed a marker-based binocular pose estimation method in real time
• Implemented a self-adjustable control strategy to catch a ring object.

CCD Camera Imaging based on Monte-Carlo Algorithm (Silver Award)
VM450 Capstone Design @SJTU *Sept 2018 – Dec 2018*
• Designed a software-based optical imaging model to analog CCD camera imaging system
• Compared small hole imaging and lens imaging and conducted feasibility analysis

Motion Planning of Robot MORO: Roaming Obstacle Avoidance and Chassis Path Planning
VM467 Introduction to Robotics @SJTU *June 2018 – Aug 2018*
•Utilized the sensor system and SLAM algorithm to plan the path and control the movement
•Applied and compared the A star and Dijkstra algorithm in shortest path planning

A Spinning Bike-based Air Purification Device
VG100 Introduction to Engineering @SJTU *June 2016 – Aug 2016*
• Designed and manufactured an exercise bike with belt transmission
• Designed and installed an air purification shell to pump out air through the filtration system

TUTOR EXPERIENCE

Undergraduate Education Office, UM-SJTU JI
Teaching Assistant @SJTU *Sept 2018 – Aug 2019*
• Worked as TA for one major course: VM395 Laboratory I

Academic Advising Center, UM-SJTU JI
Student Advisor @SJTU *Sept 2017 – Aug 2019*
• Provide academic advice to JI students
• Hold workshops aiming to promote academic skills and share professional interests

SELECTED HONORS

The Japanese Government's MEXT scholarship *Sept 2019- Aug 2021*
Shanghai Distinguished Graduates Award *June 2019*
National Scholarship (Twice, top 1% in SJTU) *Oct 2017, Oct 2018*
Honorable Mention in Mathematical Contest in Modeling *Apr 2018*
Yu Liming Scholarship (Twice, top 0.5% in UM-SJTU JI) *Nov 2016, Nov 2017*
Undergraduate Excellent Scholarship (3 times, top 5% in SJTU) *Dec 2016, Dec 2017, Dec 2018*