

BINQIAN JIANG

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🏠 Rm506D, University Apartments B, HKUST, Clear Water Bay, Kowloon, Hong Kong

EDUCATION

Southeast University (SEU)

Nanjing, China

B.E. in Information Engineering

Jun, 2019

- Overall GPA: 3.89/4.00 (90.96/100.00)
- Outstanding Graduate of Southeast University (top 5%)

PROJECTS

• A SLAM System Based on LiDAR and IMU

Mar – May, 2019

- Developed a 2D graph SLAM system with better mapping quality than gmapping and hector-SLAM
- Devised a real-time 2D loop closure method using a self-invented geometric environment descriptor
- One paper, *A Triangle Feature Based Map-to-map Matching and Loop Closure for 2D Graph SLAM*, submitted

• Rescue Robot Design and Implementation for the Robocup Contest

Sep – Oct, 2018

- Implemented motion control, autonomous exploration, mapping, and object recognition on a Turtlebot
- Trained the sign detector which is based on Haar cascade classifier
- Developed detecting, locating, and transform algorithms for QR code recognition without computer vision libraries

• Design and Implementation of CPU on an FPGA

Mar – Apr, 2018

- Designed the CPU architecture and instruction set, and implemented it on a Xilinx FPGA using VHDL
- Created a compiler for the CPU in Python to compile assembly language code into machine code and allocate RAM for programs

• Design and Manufacture of a Formula Student Race Car

Mar – Oct, 2016

- Designed the car body and aerodynamics apparatus using CATIA, and analyzed and optimized their performance using ANSYS Fluent
- Manufactured the above mentioned parts using carbon fiber material

EXPERIENCE

Unity-Drive Innovation Technology Co., Ltd.

Shenzhen, China

Perception and Mapping Research Intern

Feb – Aug, 2019

- Developed a 2D SLAM system with real-time loop closure (see section "Projects")
- Implemented a heterogeneous map sharing method to reduce drift in visual localization and mapping

National Instruments Corporation

Nanjing, China

Summer Intern

Aug – Sep, 2018

- Built a pan-tilt camera with MyRIO, a webcam and self-assembled servo motor sets and created LabVIEW software to track moving human faces
- Received a Certified LabVIEW Associate Developer (CLAD) Certification from National Instruments

PUBLICATIONS

1. **A Triangle Feature Based Map-to-map Matching and Loop Closure for 2D Graph SLAM**, Binqian Jiang, Yilong Zhu, Ming Liu, IEEE International Conference on Robotics and Biomimetics (ROBIO), 2019

HONORS AND AWARDS

Outstanding Bachelor Thesis of Southeast University (top 5%)

Jun, 2019

Mitsubishi Electric Scholarship

Apr, 2019

1st Place, RoboCup Contest of Southeast University

Oct, 2018

1st Prize in province, China Undergraduate Mathematical Contest in Modeling

Oct, 2017

1st Prize, Undergraduate Physics Experiment Research Thesis Contest of Southeast University

Jun, 2017

Ford Scholarship

Nov, 2016

2nd Prize, Formula Student China

Oct, 2016

National Scholarship (top 2%)

Oct, 2016

SKILLS

- Programming Languages: Python, C/C++, Matlab, Java, VHDL
- Software and platforms: ROS, OpenCV, PCL, Ceres, \LaTeX