BINQIAN JIANG

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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
- **Android Malware Detection Based on Characteristic Extraction**   *Sep – Nov, 2017*
  - Developed the main program using SVM algorithm in Python
  - Used MongoDB database to manage software samples and characteristic vectors
- **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*
- Wrote ROS wrappers for some hardware like IMUs and angle sensors
- 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

HONORS AND AWARDS

Outstanding Bachelor Thesis of Southeast University (top 5%)   *Jun, 2019*
Mitsubishi Electric Scholorship   *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 Scholorship   *Nov, 2016*
2nd Prize, Formula Student China   *Oct, 2016*
National Scholorship (top 2%)   *Oct, 2016*

SKILLS

- Programming Languages: Python, C/C++, Matlab, Java, VHDL
- Software and platforms: ROS, OpenCV, PCL, Ceres, LaTeX
- Languages: English - Fluent (TOEFL 104), Mandarin - Native speaker