WEIHAN WANG

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EDUCATION

Vanderbilt University, Nashville, Tennessee Aug. 2017 - Dec. 2019 (Expected)
M.S. in Computer Science GPA: 3.7/4.0
Thesis: RGB-D Simultaneous Localization and Mapping Application

University of Missouri, Columbia, Missouri
B.S. in Computer Science (Honor Scholar and Cum Laude in MU) GPA: 3.7/4.0

TECHNICAL SKILLS

Languages C, C++, Python, Swift
Frameworks OpenCV, Eigen, Sophus, g2o, Pangolin, ROS

WORK EXPERIENCE

Shenzhen Pengcheng Laboratory - Stereo Visual-Inertial SLAM System Jun. 2019 - Present
Research Intern *Shenzhen, China*

· Designed and Developed an state-of-the-art Stereo Visual-InertialSLAM system.
· Implemented Visual-Inertial alignment, Visual-Inertial system initialization.
· Implemented local window based tightly-coupled Visual-Inertial system optimization.

RESEARCH EXPERIENCE

Research Assistant at Model-Based Embedded Systems Lab
Autonomous Vehicle System (ROS, OpenCV, Eigen, Sophus, g2o) Nov. 2018 - June. 2019
Nashville, TN

· Applied state-of-the-art Visual Simultaneous Localization and Mapping (SLAM) algorithms on both the simulation testbed and the mobile vehicle.
· Developed a loadable kernel module (LKM) enabling the communication between the vehicle motor and the computer userspace (operating system).
· Implemented Kalman filter between Internal Measurement Unit (IMU) and speed transmitter for velocity calibration.
· Designed neural network perception module for autonomous vehicle system and used reinforcement learning algorithms to train the controller of the vehicle.

PROJECTS

RGB-D Simultaneous Localization and Mapping Application
(CMake, ROS, OpenCV, Eigen, Sophus, g2o, PCL) Jan. 2019 - Present

· Implemented extrinsic camera calibration, feature extraction, feature matching and pose estimation.
· Applied visual odometry, backend graph optimization and sparse mapping.
· Implemented and test algorithms on the Traxxas Ford Fiesta 1/10 scale rally car.

Online Stock Trading System
(Javascript, Meteor, MongoDB, Heroku) Dec. 2017 - Aug. 2018

· Deployed an interactive online stock trading system on Heroku and Amazon Mechanical Turk.
· Used Meteor framework to manage the real-time trading data stored in NoSQL database (MongoDB).