

# WEIHAN WANG

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## EDUCATION

|   |   |
|---|---|
| <b>Vanderbilt University, Nashville, Tennessee</b><br>M.S. in Computer Science<br>Thesis: RGB-D Simultaneous Localization and Mapping Application | Aug. 2017 - Dec. 2019 (Expected)<br>GPA: 3.67/4.0 |
| <b>University of Missouri, Columbia, Missouri</b><br>B.S. in Computer Science (Magna Cum Laude in MU)   | GPA: 3.67/4.0                                     |


## TECHNICAL SKILLS

|                   |   |
|-------------------|---|
| <b>Languages</b>  | C, C++, SQL, PHP, Python, Java, Javascript, Swift                                 |
| <b>Frameworks</b> | OpenCV, Eigen, Sophus, g2o, MongoDB, Tensorflow, Scikit-learn, ROS, Meteor, D3.js |

## WORK EXPERIENCE

|  |   |
|--|---|
| <b>Shenzhen Pengcheng Laboratory - Visual-Inertial Stereo SLAM System</b><br><i>Research Assistant Intern</i>  | Jun. 2019 - Present<br><i>Shenzhen, China</i> |
| <ul style="list-style-type: none"><li>· Designed and Developed an state-of-the-art Visual-Inertial Stereo SLAM system.</li><li>· Implemented visual-inertial alignment, Visual-Inertial system initialization.</li><li>· Implemented local window based tightly-coupled Visual-Inertial system optimization.</li></ul> |   |

## RESEARCH EXPERIENCE

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|--|------------------------|
| <b>Research Assistant at Model-Based Embedded Systems Lab</b> <br><i>Autonomous Vehicle System (ROS, OpenCV, Eigen, Sophus, g2o)</i><br><i>Nashville, TN</i>  | Nov. 2018 - June. 2019 |
| <ul style="list-style-type: none"><li>· Applied state-of-the-art Visual Simultaneous Localization and Mapping (SLAM) algorithms on both the simulation testbed and the mobile vehicle.</li><li>· Developed a loadable kernel module (LKM) enabling the communication between the vehicle motor and the computer userspace (operating system).</li><li>· Implemented Kalman filter between Internal Measurement Unit (IMU) and speed transmitter for velocity calibration.</li><li>· Designed neural network perception module for autonomous vehicle system and used reinforcement learning algorithms to train the controller of the vehicle.</li></ul> |                        |

## PROJECTS

|  |                       |
|--|-----------------------|
| <b>RGB-D Simultaneous Localization and Mapping Application</b><br>(CMake, ROS, OpenCV, Eigen, Sophus, g2o, PCL)  | Jan. 2019 - Present   |
| <ul style="list-style-type: none"><li>· Implemented extrinsic camera calibration, feature extraction, feature matching and pose estimation.</li><li>· Applied visual odometry, backend graph optimization and sparse mapping.</li><li>· Implemented and test algorithms on the Traxxas Ford Fiesta 1/10 scale rally car.</li></ul> |                       |
| <b>Online Stock Trading System</b><br>(Javascript, Meteor, MongoDB, Heroku)  | Dec. 2017 - Aug. 2018 |
| <ul style="list-style-type: none"><li>· Deployed an interactive online stock trading system on Heroku and Amazon Mechanical Turk.</li><li>· Used Meteor framework to manage the real-time trading data stored in NoSQL database (MongoDB).</li></ul>   |                       |