RISHI TEJA MADDURI

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OBJECTIVE

Full-Time Summer Internship and Co-Op Position in Perception, Mapping and Localization, Computer Vision and Deep Learning For The Year 2020-2021.

EDUCATION

Worcester Polytechnic Institute, MA   Aug 2019 - Present

Master of Science in Robotics, Automation and Mechatronics Engineering GPA: 4.0/4.0

Chaitanya Bharathi Institute of Technology   2015 - 2019

Bachelor of Engineering in Mechanical Engineering

TECHNICAL SKILLS

Skills & Packages	C++, Python, NumPy, Tensorflow
Softwares	ROS, GAZEBO, OpenCV, MATLAB, Solidowrks

EXPERIENCE

Visvesvaraya National Institute of Technology, Research Intern   May 2018 - July 2018

- Studied Kinematics and Dynamics of Mobile Robots.
- Developed Bond Graphs for Two-Wheel and Four-Wheel Differential Drive Mobile Robots using 20 Sim and MATLAB.
- Used Forward and Inverse Kinematics to build a Differential-Flatness based Controller for a Two Wheel Mobile Robot Using MATLAB

PROJECTS

Implementing Semantic SLAM   Jan 2020-Present

- Pose Estimation and Object Detection using Visual Inertial Localization
- Parameterizing Objects with Quadrics
- Using Semantic Information from Images as Landmarks for Localization in graph SLAM

Implementing ORB SLAM   Dec 2019-Jan 2020

- Performed Camera Calibration using ROS.
- Implemented ORB SLAM from scratch using an RC Car
- Printed Essential Maps and Covisibility Graphs using ROS Topics

Detection and Recognition of Traffic Signals   Oct 2019-Dec 2019

- Identified Traffic Lights in images using feature detection algorithms and dynamic thresholding.
- Built an SVM Classifier for real-time detection of Traffic Lights for Autonomous Vehicles
- Switched to Deep Learning Based YOLOV3 Algorithm for higher accuracy

Stewart Platform For Organ Motion Simulation   Aug 2019-Dec 2019

- Studied the Kinematics and Dynamics of Parallel Manipulators
- Developed CAD Models of the Platform
- Simulated the platform in ROS-Gazebo in environment
- Fabricated the platform using Additive Manufacturing techniques
- Real-time implementation of Breathing motion of the heart

EXTRACURRICULAR AND COMMUNITY ACTIVITIES

- Placement Coordinator for the Class of 2019.
- Organized free health camps across the state as a coordinator of Street Cause, CBIT.