

RISHI TEJA MADDURI

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OBJECTIVE

Seeking internship/co-op positions in Robotics, Computer Vision and Deep Learning for the year 2021.

EDUCATION

Worcester Polytechnic Institute, MA Aug 2019 - Present
Master of Science in Mechatronics, Robotics and Automation Engineering GPA: 4.0/4.0

Chaitanya Bharathi Institute of Technology Aug 2015 - May 2019
Bachelor of Engineering in Mechanical Engineering GPA: 7.83/10

TECHNICAL SKILLS

Languages: C++, Python, HTML
Softwares and Libraries: ROS, GAZEBO, OpenCV, PyTorch, Tensorflow, MATLAB

EXPERIENCE

Computer Vision Intern, Virtual Viewing Aug 2020 - Present

- Working in collaboration with University of Oxford on processing 360° images
- Performing object classification and semantic segmentation on 360° images by leveraging equirectangular and cubemap projections using GANs

Graduate Researcher, WPI Jan 2020 - Aug 2020

- Worked with Dr. Ziming Zhang on Point Cloud Semantic Segmentation using Graph Neural Networks.
- Approximated and discretized quadrics using Icosahedral lattice and fractals for adaptive projection of 3D points and used an encoder-decoder network for point semantic segmentation.

PROJECTS

Point Cloud 3D Object Detection Sep 2020 - Present

- Voxelizing raw point cloud and using Faster RCNN based RPN to obtain 3D bounding boxes.
- Training and Testing on the KITTI car dataset, pedestrian dataset and cyclist dataset.

Visual Odometry and Depth Estimation using RNN May 2020 - Aug 2020

- Used an LSTM based architecture for monocular depth and odometry estimation.
- Trained and Tested on the KITTI dataset.

LIDAR based 3D SLAM for Autonomous Navigation Feb 2020-May 2020

- Performed NDT based Iterative scan matching for sensor pose detection.
- Constructed a 3D graph based map with loop detection and pose graph optimization.

Deep Prediction For Self Driving Vehicles Feb 2020-May 2020

- Behavior Prediction for Autonomous Vehicles using Argoverse motion forecasting dataset.
- Obstacle Trajectory prediction using Social GANs and LSTM based Sequence-to-Sequence encoder-decoder architecture.

Detection and Classification of Traffic Signals Oct 2019-Dec 2019

- Implemented Deep Learning based YOLOv3 algorithm for traffic light detection and bounding box.
- Built an HSV Classifier based on bounding box coordinates for classification.