

CONTACT INFORMATION:

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EXPERIENCE:

Honda Research Institute

Research Engineer

(Jan'18-Present)

Worked on 3D scene understanding framework. Implemented 3D Mapping using LiDAR sensor and motion compensation using GPS-IMU sensor. Created a 3D Detection and Tracking (H3D) Dataset. Implemented 3D detection algorithms on H3D dataset. Currently working on Multi object Tracking and Future Trajectory Prediction.

Carnegie Mellon University

Visiting Scholar, Machine Learning Department

Katerina Fragkiadaki (May'17-Aug'17)

Worked on developing Ego-motion estimation for UAVs with low cost sensors (Monocular Camera, IMU) using Deep Learning Techniques. IMU sensor is used to overcome the problem of less or no visual correspondences during fast motions.

Research Associate, Field Robotics Center

Sebastian Scherer (Sept15-April16)

For the application of Industrial inspection using UAVs, I worked on system integration, controls and real time coverage planner to optimize flight time.

EDUCATION:

Worcester Polytechnic Institute

Jan 2017 - Sept 2018

Master of Science in Robotics Engineering

GPA: 4.0/4.0

Vellore Institute of Technology, Vellore, India

July 2012 - May 2016

Bachelor of Technology in Electronics and Instrumentation

GPA: 8.79/10

Udacity, Self Driving Car NanoDegree

July 2017 - Jan 2018

Deep Learning, Computer Vision and Sensor Fusion

RELEVANT PROFICIENCY:

Software and Programming: C, C++, Python, MATLAB, ROS, OpenCV, PCL, OpenRave, TensorFlow, Keras, Multisim, Solid Works, MoveIt, OpenAI, Gazebo, MuJoCo

Hardware: ATMega 328, MSP 430, 8051/52, Odroid U3, Udoo, Raspberry Pi, Pixhawk

Robots: Baxter, UAVs (custom built, DJI), Kuka Youbot, Turtle Bot

PROJECTS:

<http://srikanthmalla.com/projects.html>

Learning from Demonstration (LfD) for Manipulation

<https://goo.gl/c5RGUE>

Hidden Markov Model is trained by extracting features from configuration space for Baxter robot to perform manipulation tasks. Several demonstrations are collected using VICON motion capture and VR Headset. Bi-RRT* is implemented to tackle dynamic obstacles.

Inventory Management Robot

<https://goo.gl/mmbx2V>

Developed a mobile robot and equipped it with custom made 3DOF robotic arm. KINECT sensor was used for RGBD mapping and localization using RTABMap.

Inertial Odometry using LSTM

Sudden rotations couldn't be captured by visual odometry (because of no correspondences in images), an extra sensor Inertial Measurement Unit (IMU) is used to capture that motion, this gives advantage of predicting better ego motion and could be fused with visual odometry.

Sensor Fusion for Autonomous Cars

Implemented Extended and Unscented Kalman Filter techniques for fusing Lidar and Radar Data on the Udacity Simulator for Autonomous Cars.

PUBLICATION:

Abhishek Patil, Srikanth Malla, Haiming Gang, Yi-Ting Chen, "The H3D Dataset for Full-Surround 3D Multi-Object Detection and Tracking in Crowded Urban Scenes", Robotics and Automation. Proceedings. 2019 IEEE International Conference

Vaegae Naveen, Venkata Lakshmi Narayana K, Srikanth Malla Development of an Intelligent Pressure Measuring Technique for Bellows using Radial Basis Function Neural Network Sensors and Actuators, A. Physical

Narayanan, Athma, Yi-Ting Chen, and Srikanth Malla. "Semi-supervised Learning: Fusion of Self-supervised, Supervised Learning, and Multimodal Cues for Tactical Driver Behavior Detection." arXiv preprint arXiv:1807.00864 (2018).