TYAGARAJA RAMASWAMY

23 Bowdoin Street
Worcester, MA 01609
+1 774-232-6083
tramaswamy@wpi.edu

https://github.com/tyaga08 | https://www.linkedin.com/in/tyagaraja-ramaswamy/

Graduate student in Robotics Engineering at WPI with experience in the manufacturing sector and Software Engineering, **graduating in May 2020** and looking for **full-time opportunities**

EDUCATION

Worcester Polytechnic Institute (WPI), Worcester MA — May'20
MS in Robotics Engineering - GPA 4.0/4.0
Courses - Computer Vision, Robot Dynamics, Advance Robot Navigation, Swarm Intelligence, Robot Control (Fall'19)

Veermata Jijabai Technological Institute (VJTI), Mumbai, India — May'15
BTech in Electrical Engineering - CGPA 3.5/4.0

EXPERIENCE

iRobot, Bedford MA - Software Engineering Intern, R&D Org — May'19 - Aug'19
Working as a summer intern with the navigation and mapping team.

IIIT Hyderabad, India - Research Assistant — Jan'18 - June'18
Worked as a research assistant under the guidance of Prof. Madhava Krishna in Robotics and Computer Vision. Worked on Visual Odometry based project for the localization of a quadcopter.

Larsen & Toubro Ltd (L&T), Pune, India - Executive Engineer — July'15 - Dec'17
Worked in the Supply Chain Group for planning and procurement of electrical and electronic components required across multifarious projects. Responsible and accountable for the availability of the inventory as per project schedule.

PROJECTS

Decentralized localization of multi-robot system (Directed Research, WPI) — Jan'19 - April'19
Developed an algorithm for the localization of multi-robots with minimalistic human inputs in an unknown environment, starting from any arbitrary point and reaching a specified goal. A combination of Lidars and wheel encoders were used for the prediction and correction of the pose estimates of the robots. Implemented this on simulation and currently working with real robots.

Implementation of SLAM for indoor navigation (Course: Advanced Robot Navigation, WPI) — Feb'19 - Apr'19
Developed an indoor environment with few landmarks in Gazebo and simulated the whole experiment. Implemented the EKF SLAM from scratch using a differential drive robot.

Featureless object detection using triangulation (Course: Computer Vision, WPI) — Oct'18 - Dec'18
Worked on a method for detection of a featureless, textureless object, robust to perspective transformations as well as background variations. Developed an algorithm based on the concept of Delaunay triangulation and the geometric properties of the object, using the OpenCV library on C++.

GMS Cluster Odometry (IIIT Hyderabad) — Mar'18 - June'18
Implemented visual odometry on very mild featured/featureless surface (like flooring tiles). Used ORB features and matching based on Grid based Motion Statistics, and made it computationally light by implementing a clustering based algorithm instead of RANSAC.

SKILLS

Software	Language	Framework	Library	Simulator
MATLAB	C++, Python	ROS	OpenCV, Eigen	V-REP, ARGoS, Gazebo