

MAITREYA KULKARNI

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College Park MD. 20783

EDUCATION

University of Maryland

Master of Engineering, Robotics.

August 2021 – Present

SRM Institute of Science and Technology

Bachelor’s in Technology, Mechatronics Engineering.

July 2016 – July 2020

EXPERIENCE

COBOTICCA AUTOMATION Pvt. Ltd. – Mumbai, Maharashtra.

December 2020 – July 2021

- Software architecture development and ROS programming.
- Integration of elevator APIs with robot navigation stack.
- Testing and optimization of robot software stack.
- AWS Greengrass for deployment of navigation stack

ENGINEERING TECHNIQUE – Vadodara, Gujarat

March 2020 – November 2020

- Design and development of 3-D Printer software stack.
- Sensor integration, software optimization, testing and calibration for increased accuracy and speed.

INTERNSHIPS

TEAM SRM ASV

August 2018 – April 2020

Mechanical Domain

- Student research team focusing on autonomous surface vehicles
- Designing of various subsystems and mechanisms, CFD analysis, fabrication and testing.

BOMBARDIER TRANSP. Pvt Ltd. - Vadodara Gujarat

December 2018 – January 2019

- Analyzing techniques of manufacturing and process automation along with manipulator robotics
- Process planning, quality control and NDT testing techniques and implementation

PROJECTS

Development of Telepresence Robot

November 2019 –June 2020

- Project selected for IDC funding by Government of India
- Design and develop autonomous telepresence robot to navigate through indoor environment, with interactive features
- Represented robot as an URDF model, rospy scripts for movement of robot in world
- Configuration and tuning of ROS navigation stack. Comparison, configuration and tuning of G-mapping and RTAB mapping algorithms and selecting ideal one for indoor use.

Design and Simulation of Telepresence Robot

August 2019 – November 2019

- Designing and simulating a mobile robot having telepresence as a functionality
- Represented robot as an URDF model deployed in a virtual world with sensor plugins, manual control, to be used for bi-directional communication.

IoT Based Tool-wear Prediction

January 2019 – April 2019

- Prediction of tool wear by monitoring vibrations generated during machining process.
- Vibrations measured and relationship established between spindle speed and depth of cut.
- KNN Machine-Learning model to predict tool wear prior to this occurrence.

SOFTWARE SKILLS

Solidworks, Gazebo simulator, ROS, MATLAB, C++, Python for ROS, AWS Robomaker, AWS Greengrass.