

CHARMIN PRITESH DESAI

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EDUCATION

University at Buffalo, The State University of New York (UB), USA

Aug 2021 – Dec 2022

- Master of Science in Robotics (Robotics & Artificial Intelligence)
Subjects: Robotics, ROS & Algorithms, Machine Learning, Computer Vision, AI, Engineering Mathematics

Sardar Vallabhbhai Patel Institute of Technology (SVIT), Gujarat, India

Aug 2016 – Aug 2020

- Bachelor of Engineering in Instrumentation & Control (Industrial Automation)
Subjects: PLC, Power Electronics & Drives, Industrial Measurement, Embedded Systems, Electrical Machines, Process Control

TECHNICAL SKILLS

Languages & Libraries: C, C++, Python, NumPy, Pandas, Matplotlib, TensorFlow, Keras, scikit-learn, OpenCV

Tools & Technology: ROS, Gazebo, SLAM, MATLAB & Simulink, AI/ML, Computer Vision, Arduino, Microsoft Office, Git

Hardware Skills: Instrumentation, PLC Automation, PID Control, Electrical, Electronics, Embedded, Circuit Design

Soft Skills: Problem Solving, Team Collaboration, Innovative, Presentable

ACADEMIC PROJECTS

Path Planning using A* Algorithm (ROS)

May 2022

- Planned a shortest path for a robot in a stage simulator from start to goal location for a given map autonomously.
- Made the robot traverse the path autonomously while avoiding obstacles.

Wall Detection and Motion Planning (ROS)

Apr 2022

- Implemented RANSAC algorithm in Python for obstacle detection through Laser Scanner data.
- Motion Planning with Bug2 algorithm in stage world simulator, utilizing data received from RANSAC node.

Evader-Pursuer (ROS)

Mar 2022

- Developed control nodes to make a robot (pursuer) constantly follow another robot (evader).
- Used TF package to create a broadcaster node (for evader) and listener node (for pursuer).

Analysis of Fanuc Robot LR Mate 200-iD 6-DOF Manipulator

Nov 2021

- Generalized the position of the tool in the Base/World Frame using the Denavit-Hartenberg Table Parameters.
- Derivation of the Jacobian Matrix by making use of the DH Table parameters.

PSIM Software (PLC Simulator)

2018– 2019

- Implemented PLC Ladder Logic Programs for Silo Process, Traffic Light, and Batch Mixer Process.

Wireless Robotic Car

2017 - 2018

- Developed a robotic surveillance car using Arduino, Raspberry Pi 3. Controllable via Bluetooth/Wi-Fi/IR Remote.
- With additional sensors for Gas, Temperature & Humidity detection, and measurement.

Electrical/Electronics & Automatic Control Projects

2019 – 2021

- Developed a portable automatic adapter machine to time any appliance with automatic power cut-off system.
- Developed an indoor automatic lighting system controlled through PIR & IR detection/Phone/Ambient Light.
- Developed an automatic system that detects & prevents water wastage and measures water consumption.

INTERNSHIP EXPERIENCE

Tara Mechcons Pvt. Ltd.

Jun 2021, India

- Developed Automatic Turn-Off functionalities in an Electrical Cutting Machine for system/operator safety.

Larsen and Toubro Power Training

Jun 2019, India

- Training on Industrial Instrumentation & Automatic Systems (PLC, DCS, SCADA).
- Hands on Pressure, Level, Temperature, Flow Transmitters, various Control Valves.

Niyantras Automation

Dec 2018, India

- Developed an Indoor Air Quality Monitoring System using Arduino, C Programming, Sensor Interfacing.

LEADERSHIP

Technical Head, of I&C Engineering Department in University Tech-Fest. Showcased Automation Projects. **Feb 2019**

Sub-Technical Head, of I&C Engineering Department in College Tech-Fest. Conducted LABVIEW Workshop. **Sep 2018**