Souri Rishik Volety

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EDUCATION

Manipal Institute of Technology, MAHE, Manipal, India — Jul 2023 - Present
Bachelor of Technology, Department of Data Science Engineering — Expected graduation: Sep 2027
Related courses: Machine Learning, Object Oriented Programming, Data Structures, Data Analytics, Database Systems, Operating Systems, Algorithms — CGPA: 7.84/10.0

Mahatma Gandhi Memorial PU College, Udupi, India — Jul 2021 - Apr 2023
Karnataka State Board — Percentage: 94.3%

TECHNICAL KNOWLEDGE

Languages:	Python, C++, C, Java
Frameworks & Libraries:	ROS, ROS2, TF2, NumPy, Pandas, Keras, Scipy, Pytorch, Matpotlib, TensorFlow, OpenCV
Software & Tools:	Visual Studio Code, Rviz, Gazebo, STM32CubeIDE
Operating Systems:	Windows, Ubuntu
Certifications:	Neural Networks and Deep Learning, Convolution Neural Networks
Web & Database Tools:	HTML, CSS, JavaScript, MySQL

PROJECTS

Autonomous Navigation of Robot, Python, ROS2 — Oct, 2024 - Present

- This project is for an International Competition called **RoboCUP@Work** and it involves the creation of a 6-DOF Arm Mecanum wheeled Robot that is capable of detecting random obstacles in the field using a 2D LiDAR and a depth camera and generates map using SLAM algorithm.
- Currently working and testing RPLIDAR A2M8 on the robot to get the map of the area. Using SLAM toolbox to get the map and NAV2 package to navigate to the goal.

Fastest Line Follower, C, STM32CubeIDE — July, 2024 - Sep, 2024

- Developed and programmed a line follower robot for the World Robotics Championship **TECHNOXIAN 8.0**.
- Integrated LSA-08 sensor and MDD3A motor driver for line detection and navigation.
- Successfully demonstrated the robot's functionality at the competition.

Ball Tracker, Python, ROS — May, 2024 - Jun, 2024

- This project involved the creation of a robot that operates in a Gazebo simulation environment where it detects randomly spawned balls in the field and returns their positions relative to the robot.
- The robot uses a depth camera to get the images of the balls and using TF2, the system converts the detected ball positions from the camera frame to the robot's base frame, ensuring accurate position reporting.
- The future scope of this project involves making the robot capable of navigating in a maze and picking the identified colored balls.

Open Volley, Python, OpenCV — Jan, 2024 - Feb, 2024

- Implemented a computer vision method that visually tracks the trajectory of the ball in a given video of a volleyball match.
- It is capable of tracing the ball's path, and also highlight its position while it moves. Additionally, it can find the number of players in each team.

Other Projects: Netflix Clone using HTML and CSS, Login Page with Javascript using HTML and CSS, Student Marksheet using OOP and C++

ACHIEVEMENTS & EXTRACURRICULAR ACTIVITIES

- Position of Responsibility: Task Phase Member, Coding Team in ROBOMANIPAL, MIT Manipal. Worked on smaller assignments that required learning various concepts in machine learning, deep learning, neural networks, computer vision, and robotics. These tasks also included coding in Python and C++.
- Secured 2nd place as TEAM ROBOMANIPAL in Research Day Exhibition organized by Manipal Academy of Higher Education.
- Secured 3rd place in Data Vista 24-hour ML Hackathon conducted by the Data Alchemists club in MIT Manipal, 2024.
- Awarded the Endowment prize under the best outgoing student category, 2022-23.
- Secured first place in Math-Trix a Mathematics competition out of 25+ teams in Inter College district fest.
- Secured third place in IT Quiz conducted at college level in class 12.
- Received a Gold medal for securing the highest marks in the keyboard examination evaluated by Trinity college of London.
- Participated in various chess tournaments and have an online chess rating ranging between 1800-2000.
- Part of the high school basketball team.