

Vineth Joseph Mallavarapu

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EDUCATION

SRM Institute of Science and Technology

B-Tech in Mechatronics with specialization in Robotics | CGPA: 8.16

Chennai, Tamil-Nadu

Graduation Date: May 2024

Little Folwer Junior College

Intermediate Education (TSBIE) | 90%

Hyderabad, Telangana

Graduation Date: Mar 2020

St Theresa High School

Secondary Education (ICSE) | 78%

Hyderabad, Telangana

Graduation Date: Mar 2018

PUBLICATION & CERTIFICATIONS

Publication: Madhumitha G, Vineth Joseph Mallavarapu, and Leela Ram Chelli, 2024, **Development of Automated Millet Identification and Billing System**, ADCIS, 3.

Certifications: ROS, IoT, Solidworks.

EXPERIENCE

Fronius India Pvt Ltd

Intern

Pune, Maharashtra

May 2024 - Jun 2024

- Gained proficiency in basic welding techniques, including **SMAW, GMAW, and TIG**.
- Conducted experimental analysis using a **FANUC 6-axis robotic manipulator**, investigating the effects of various shielding gases (pure Argon, CO₂, and Argon-CO₂ blends in 80-20 and 98-2 ratios) on mild steel weld characteristics.
- Utilized multiple operational modes (**CMT, PMC, PULSE, LSC, and standard**) to optimize welding outcomes and improve process control.

Apsis Sollutions

Intern

Remote

Feb 2024 - Mar 2024

- Developed an **IoT-based smart factory system** for real-time monitoring and process optimization.
- Created an **IoT-based weather data system using ESP32** for environmental data collection and cloud-based analysis.
- Designed a **voice-controlled home automation system** using IoT for remote control and energy efficiency.

Vaayusastra

Intern as a Mechanical Engineer

Chennai, Tamil Nadu

Feb 2023 - May 2023

- Designed and fabricated an **autonomous obstacle avoidance vehicle**.
- Developed and engineered a **Rocker Bogie mechanism**.
- Gained foundational knowledge in Space Rover design and functionality.

TECHANALOGY

Intern as a Mechanical Designer

Remote

May 2021 - Jun 2021

- Worked on innovative **electric cycle designs**, repurposing existing bicycle chassis for new electric models.
- Conceptualized and designed **monowheels**, enhancing production efficiency and reducing costs through CAD modelling and simulations.

PROJECTS

Automated Millet Identification and Billing System

Chennai, Tamil Nadu

Jan 2024 - May 2024

- Developed an automated millet classification system that uses **deep learning** for accurate millet variety identification via an upper camera with an **accuracy of 85%**, coupled with load cells for weight estimation. The system autonomously generates a user bill based on the data and also features an admin portal for updating the prices and checking billing history.
- This project is also subject to an **ongoing patent application**.

Automated Conveyor Sorting and Assembly System

Chennai, Tamil Nadu

Jun 2023 - Nov 2023

- Designed and developed a robotic workcell for efficient **colour-based object sorting and assembly**, featuring an **RRR manipulator (calculated inverse kinematics)**, conveyor, and an IoT-based control system for streamlined operations.

Line Following Robot using PID algorithm

Chennai, Tamil Nadu

Jan 2023 - Mar 2023

- Worked on various design parameters, such as selection of sensors, CAD modelling, and motor speed optimization to complete the line following as fast as it could. focusing mainly on **PID tuning**
- Participated in the Reroute competition organized by the SRM Institute of Science and Technology.

Obstacle Avoidance Robot

Chennai, Tamil Nadu

Feb 2023 - May 2023

- Developed a self-navigating machine designed for **autonomous navigation and obstacle avoidance**, overcoming technical challenges in sensor selection, path planning, and control algorithm design.

Probabilistic route mapping for a mobile robot

Chennai, Tamil Nadu

Jul 2022 - Nov 2022

- Mapped an indoor arena for a mobile robot using a binary occupancy grid, simulating probabilistic route map to determine the **most efficient path between designated points** on MATLAB.

SKILLS & LANGUAGES

Skills: Robotic welding, SolidWorks, Ansys, AutoCad, Arduino IDE, Raspberry Pi, MATLAB, Microsoft Office (Word, Excel, and PowerPoint), ROS.

Languages: Embedded C, Python, C .

CAMPUS ENGAGEMENT

Powertrain Engineer : **Infieon SuperMileage** (a student team from the SRM Institute of Science and Technology participates in the Shell Eco Marathon annually).

Social Service Lead : Worked as a social service lead at the **Association of Mechatronics** at the SRM Institute of Science and Technology for two years.