BAVADHARINI G S

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ACADEMIC DETAILS

Bachelor of Engineering in Mechatronics — **CGPA: 8.72**
Chennai Institute of Technology, Chennai — (2022 – 2026)

Higher Secondary Certificate — **94.6%**
Vani Vidyalaya Senior Secondary and Junior College — (2021 - 2022)

INTERNSHIP EXPERIENCE

Centre for Advanced Industrial Research — **(June 2024)**
Learnt about **Raspberry Pi** and developed a project on predictive maintenance systems

CDCE Robotics and Automation — **(May 2024)**
Worked on bezel assembly systems, contributing to design specific SPM components, developed and simulated **PLC programs for SPMs** using Delta PLCs, and supported PLC circuit connections.

WIPRO Infrastructure Engineering — **(Nov – Dec 2023)**
Worked with the Fanuc R-2000iC/165F industrial robot, and engaged in **Hydraulic cylinder manufacturing processes**, including friction and arc welding techniques.

MK Autocomponents — **(May 2023)**
Gained experience with **CNC lathes and VMC machines**, involving the machining processes, quality control procedures, production planning, and optimization.

PROJECTS

WORKPLACE PROJECTS:

Real-Time Parcel Tracking System for United Parcel Service, Inc.

Integrated foam-based RFID tags with standalone Zebra RFID scanners and Raspberry Pi to transmit data to backend servers, and implemented real-time GPS integration with Raspberry Pi for enhanced parcel tracking.

ACADEMIC PROJECTS:

Intelligent Air Care
- Built an ESP32-based **predictive maintenance system** for air conditioners, with various sensors. The system monitors real-time data, automatically detects anomalies, stores them in the cloud, and triggers notifications for proactive maintenance.
- **Link:** https://github.com/Bavadharini-G-S/Intelligent-Air-Care

Auth-Enabled Home Automation via Whatsapp
- Designed **Secure home automation** with ESP8266 & Whatsapp control (**Authentication required**). Maintains manual control via switches.
- **Link:** https://github.com/Bavadharini-G-S/Auth-Enabled-Home-Automation

Multi-terrain Autonomous Bot
- Built **terrain-agnostic autonomous robot** using ultrasonic sensors for obstacle detection.
- **Link:** https://github.com/Bavadharini-G-S/Multi-terrain-autonomous-bot

LEADERSHIP ACTIVITIES

Team lead – Aakruti Global 2024 Competition | **Tech Quiz Event Coordinator and Magazine Editor** – Jarvis 2024 | **Embedded System and IoT Workshop Coordinator** | **IoT Workshop Organizer** – Jarvis 2023, Skillup | **Tech Quiz Event Organizer** – Jarvis 2022

CERTIFICATIONS

- **NPTEL** – Industry 4.0 and Industrial IoT, Fundamentals of Automotive Systems
- **Universal Robots** - e-Series Track Course
- **Linkedin Learning** Industrial Automation
- **Dassault systems** - SOLIDWORKS Sustainability Associate
- **IMTMA -** Overall Equipment Effectiveness
- **CISCO** - Networking Essentials / Introduction to Cybersecurity / CCNAv7 Switching, Routing & Wireless Essentials
- **Coursera -** IoT Communications, IoT Devices

SKILLS

- Solidworks
- IoT Development
- Arduino Development
- Embedded Systems
- Sensors & Instrumentation
- PLC Programming
- KUKA Sim Pro
- RoboDK
- Robot Programming
- C, Python, Java Programming

HANDS-ON EXPERIENCE

- KUKA KR-16, KR-20
- Mitsubishi Melfa RV-4FLD

ACHIEVEMENTS

- Best Design Award – National Level Competition on **SAE Embedded Systems**, **2024**
- 1st Runner-up – **Nexathon 2024**
- Semi-finalist – **Aakruti Global 2024**
- 1st Runner-up – Quest for X Mark (Tech event at Loyola ICAM College)