SWETHA V

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Profile

Enthusiastic Electronics and Instrumentation Engineering student with hands-on experience in robotics, automation, and control systems. Skilled in programming, circuit design, and data analysis, with practical exposure through internships and projects. Seeking an opportunity to apply my skills in a dynamic, innovation-driven environment.

Experience

INTERN| TESPA ROBOTICS AND AUTOMATION SOLUTIONS | MAY-2024 – JUNE 2024

- Assisted in the **design, development, and testing** of robotic systems.
- Collaborated with senior engineers on **automation solutions** and optimized **PLC-based systems**.
- Conducted **research and data analysis** to improve **robotic control algorithms**.
- **Enhanced problem-solving and programming** skills in MATLAB and Python.

INPLANT TRAINING | BRAKES INDIA PVT LTD| DECEMBER 2024

- Observed and understood the manufacturing and assembly processes of braking systems.
- Learned the basics of Programmable Logic Controllers (PLC), including writing, debugging, and modifying simple automation programs.
- Understood the role of PLCs in automating and controlling various industrial processes.

Education

B.Tech. Electronics & Instrumentation Engineering – SASTRA Deemed University (2022–2026)
CGPA: 8.25 (5th Semester)
Vidya Peetam Sr. Sec. School

- **12th Grade:** 86%
- **10th Grade:** 92.6%

Skills & Abilities

1. PROGRAMMING IN C AND C++
2. LabVIEW
3. MATLAB
4. PYTHON
5. SOLIDWORKS-(BASICS)
6. COMMUNICATION
7. TEAM WORK
8. CRITICAL THINKING

Vibration Monitoring System Using MEMS Accelerometer

- Developed a real-time vibration monitoring system to track mechanical equipment performance.
- Interfaced an ADXL345 MEMS accelerometer with an AT mega microcontroller to capture vibration data.

DC Motor Speed & Position Controller Using MATLAB Simulink – Arun Kumar. P

- Designed and simulated a PID controller in MATLAB Simulink to regulate DC motor speed and position.
- Tested and compared the motor's current, voltage, and speed under different operational conditions.
- Analyzed the performance of the controller and adjusted parameters for optimal speed & position control.

EEG Hardware Development – Dr. Adalarasu K

- Designed and developed an EEG circuit for capturing brainwave signals.
- Implemented signal filtering and processing algorithms to clean EEG signals.
- Used Tracer DAQ to analyze and visualize brainwave patterns for potential applications in neurofeedback and control systems.

Tomato Ripeness Detection System using Fuzzy Logic – Dr. Jayalalitha S

- Developed an intelligent **Tomato Ripeness Detection System** using **image processing and fuzzy logic in MATLAB**
- Designed a **fuzzy inference system (FIS)** with Gaussian membership functions to classify tomatoes as **ripe, unripe, or undeveloped**, achieving improved accuracy through enhanced preprocessing.

CERTIFICATION

- **Embedded Sensing ,Actuation,Interfacing Systems** – NPTEL Course
- **MATLAB & Simulink for Control Systems** – Hands-on training in modeling and simulation.
- **Industrial Automation & PLC Programming** – Practical exposure to industrial control systems.
- **KiCad Workshop** – PCB design and circuit layout basics.