

VIRAJ KULKARNI

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Education

Savitribai Phule Pune University

Bachelor of Engineering in E&TC

CGPA: 8.33

December 2021 - Present

Sawkar Science College, Satara

Higher Secondary School

Percentage: 93.33%

July 2019 - July 2021

Relevant Coursework

- Core MATLAB Skills
- MATLAB Fundamentals
- Embedded Systems
- Database Management
- Simulink Fundamentals
- Object Oriented Systems
- Data Structures
- Web Development

Experience

Pantech ProEd Pvt Ltd

December 2023 – March 2024

Embedded Systems Engineer Intern

- Developed IoT based solutions in an innovative manner and programmed microcontrollers, **contributing to a 15% increase in system efficiency, 30% reduction in power consumption.**
- **Improved system performance by 25% and reduced tolerances by 15%** through effective sensor interfacing and optimization using server-system integration.
- Implemented IoT protocols and collaborated on hardware-software integration projects.

MathWorks - AICTE

May 2023 - September 2023

MATLAB Developer Intern

- Developed mathematical & AI based projects using **MATLAB**, focused on **data visualization & data analysis by 90% error reduction.**
- **Developed MATLAB scripts** for signal processing that **improved data analysis efficiency by 25%**, enhancing the speed of simulations.
- **Conducted simulations of electronic circuits** in MATLAB/Simulink, identifying design improvements that increased efficiency by **12%**.

Projects

HealthSphere | *Embedded Software Programming, Sensor Interfacing, Full Stack Development.*

- Developed & **implemented a real-time healthcare system** that achieved **data transmission and display latency of less than 1 second, providing accuracy of 97%** and timely health metrics .
- Engineered a seamless data flow from hardware sensors to a full-stack web application, **enhancing real-time monitoring and visualization by 40% and upgrading UI/UX by 35%.**
- **Optimized the system's power consumption by 30%**, ensuring continuous operation without any interruption .

Thermal Model of House | *Simulink, MATLAB, Data Visualization*

- Developed a **thermal model of a house using Simulink**, integrating environmental conditions, thermal properties, and heating systems to simulate indoor temperature control.
- Modified the system to include air conditioning components, **improving the model's capability to simulate both heating and cooling scenarios.**
- Enhanced the model by **incorporating a thermostat subsystem with a 5 °F fluctuation tolerance** and a heater subsystem delivering a constant 50 °C hot air flow at 3600 kg/hr.

Technical Skills

Languages & Database: C, C++,MATLAB, Java,Python, JavaScript, MYSQL

Developer Tools & Software: Eclipse, Simulink, MATLAB, VS Code, Proteus, MS Office

Other: Data Structures & Algorithms, Object Oriented Programming, Frontend & Backend Development, Embedded Programming & IoT

Leadership / Extracurricular

Entrepreneurship Development Cell

March 2023 - Present

Financial Strategist

- * **Oversaw financial planning** for 10+ professional events, including workshops and seminars, managing costs through effective budgeting & ensuring **optimal allocation and utilization of resources.**