VIDHU SARWAL

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Education

Thapar Institute of Engineering and Technology **2023 − 2027**
Bachelor of Engineering in Computer Science and Engineering *Patiala, Punjab,IN*

The Gurukul **2021-2022**
12th Grade, 88.5% *Mohali, Punjab, IN*

Manav Mangal Smart World **2019-2020**
10th Grade, 90.6% *Mohali, Punjab, IN*

Experience

Sentinal Innovations Pvt. Ltd. **June 2024 − Present**
Electronics Engineer Intern *Remote*

- Implemented and configured IoT systems using ESP microcontrollers and MQTT protocols, ensuring seamless communication between devices and the cloud.
- Designed and tested circuits for IoT applications, creating detailed layouts and conducting thorough debugging to ensure robust performance.
- Managed procurement and coordinated with external contractors for PCB manufacturing, overseeing production timelines and quality control.

Projects

Caffeen IoT Home Board | *C ,ESP8266, JS, Dart* **January 2024**

- Based on ESP8266, This board is capable to drive 4 relays, take analog input from sensors. Can be used to control home appliances as well as control scheduled applications like watering plants. This also comes with an android app made in flutter.

ERP System development for Indian Army | *Django, Sqlite* **June 2024 − Present**

- Backend developer in a team of four, working in Django to build an ERP system for Patiala cantonment for streamlined manpower management and task distribution

Votemaxxing | *Flask, JS, MongoDB* **May 2024**

- Developing a blockchain-based voting web application utilizing Flask for backend. Ensured secure, transparent, and tamper-proof elections, advancing democratic processes through decentralized technology.

Technical Skills

Languages: Python, C, HTML, JavaScript, BASH
IoT frameworks: MqTT, HomeAssistant
DevOps: Nginx, Apache, AWS, Both server and server-less setup
Technologies/Frameworks: Qt, GitHub, MongoDB, ARM Cortex M3/M4
Dev Tools like git, Vim, Bash, Linux.
Firmware Device Reverse Engineering, Vulnerability Assessment
Using interfaces like JTAG, SPI etc. For Debugging

Leadership / Extracurricular

Gold Medal, Cyber Olympiad **2019**
State Level

Gold Medal, World Robotic Olympiad **2017**
Regional Round

- Led a team of three individuals at WRO Regionals 2017, overseeing software development for our competitive robot.
- Directed software development efforts, ensuring optimal performance and functionality of the team's robot during the competition.
- Collaborated closely with teammates to strategies and execute software development plans, fostering effective teamwork and communication skills.