

Karan Saxena

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EDUCATION

Vellore Institute of Technology

B.Tech - Computer Science Engineering - CGPA - 8.22

2022 - 2026

City Montessori School

Higher Secondary - Percentage - 95%

Graduated in 2021

City Montessori School

High School - Percentage - 92%

Graduated in 2019

TECHNICAL SKILLS

Languages: Python, C/C++, R, ARM64 Assembly, Bash, Embedded C

Frameworks: Flask, FastAPI, Streamlit

Microcontrollers: Arduino, MSP430, STM32, ESP32, Raspberry Pi

Libraries: pandas, NumPy, Matplotlib, Sci-kit Learn

Core Concepts: Internet of Things, Embedded Systems, RTOS, Communication Protocols(UART, SPI, I2C), Linux

PROJECTS

Esp32 Agriculture monitoring and automation | *embedded C, C++*

- Engineered an IoT-based agriculture monitoring and automation system utilizing the ESP32 microcontroller and C++.
- Designed and implemented a real-time agricultural data monitoring system using the ESP32 microcontroller, achieving 98% system uptime and collecting five key environmental data points hourly.
- Github Link: <https://github.com/Bohemian-Ophidian/ESP32-based-agriculture-monitoring-and-automation>

Health Menta | *HTML, TypeScript, JavaScript, Python, CSS, Git*

- Developed a healthcare locator mapping 40+ hospitals and clinics, displaying 3+ key data points per location including real-time ratings and hours.
- Enhanced user navigation efficiency, enabling seamless routing to 2 distinct categories of health facilities directly from the interface.
- Github link: https://github.com/Bohemian-Ophidian/Health_Hackathon

SSH Log Analyzer | *Python, Bash, Wireshark, Git*

- Built a command-line interface (CLI) tool using Python and Bash to automate the parsing and analysis of Linux server authentication logs (/var/log/auth.log).
- Implemented logic to detect brute-force attacks by correlating multiple failed SSH login attempts from unique IP addresses within defined time windows.
- Demonstrated mastery of Linux file structures by architecting a solution that parses standard Syslog formats without dependencies.

CO-CURRICULAR ACTIVITIES

- Solved 100+ questions on [Leetcode](https://leetcode.com/)
- Python Gold Badge on [HackerRank](https://www.hackerrank.com/)
- Completed Cyber-Security Analyst certification from IBM Career Education Program
- solved 25+ Project-Euler Problems : [Github link](#)
- Completed Embedded System Design Certification from Maven Silicon.