Sayyad Abid

+91 9110704647 | sayyad.abid16@gmail.com | linkedin.com/in/sayyadabid | github.com/abid-sayyad

Education

SRM University Chennai, TN

Bachelor of Technology in Computer Science and Engineering - 8.90 (CGPA) *Sept. 2021 – Present*

Related Coursework: *Operating Systems, Computer Organization and Architecture, Computer Communication, Data Structures and Algorithms, Probability & Queuing Theory*

Army Public School Ahmedabad, GJ

High School Graduation - 91% *July. 2009 – May 2021*

Experience

Kernel Development Intern Apr. 2023 – Aug,2023

PKare *Bhubaneswar, OR (Remote)*

- Worked on wearable health monitoring device to keep a track of vitals like **Heartrate** and **SPO2**.
- Explored **RTOS** and its implementation for improving **efficiency** in Medical Devices.
- Created **MAX30102** device driver for **nrf52dk** on **ZephyrOS** for reading heartbeat over **BLE**.

Software Development Intern Feb 2023 – Jul 2023

ProjectX.Cloud *Kolkata, WB (Remote)*

- Worked with the development team on building the interface for **InfinityOS**, a cloud based OS.
- Researched on the interfacing technologies like **The GTK Project**, for developing OS interface.
- Revamped the product website for better **responsiveness** and an immersive user experience.

Positions of Responsibility

Next Tech Lab Sep. 2021 – Present

Robotics Research Lab, Head *Chennai, TN*

- Next Tech Lab is SRM's internationally recognized research lab, honored with the prestigious **QS Award**.
- Head of the Tesla Domain of the Next Tech Lab, which specializes in **Robotics and Embedded Systems**.

Technical Skills

Languages and Frameworks: C/C++, Cilium, Bash, Python, JavaScript, Node.js, SQL, RTOS, CAD
Libraries: Arduino Core, Pandas, NumPy, Matplotlib **Miscellaneous**: Linux, Git, Vim, eBPF (bcc and bpftrace)

Projects

ApricotOS 🔗 | *C, Makefile, Assembly, Shell, Bash* Aug 2022 – Present

- Implemented a **boot loader** in assembly language, delving into the intricacies of the boot process and **memory management**.
- Worked extensively with **real mode interrupts**, enabling robust hardware interaction and facilitating I/O operations such as reading **512-byte sectors** from the hard disk.
- Developed a **virtual filesystem** layer **inspired by the Linux kernel**, enhancing the operating system's file management capabilities and enabling seamless integration with various file systems.

Auto-Move 🔗 | *C/C++, Arduino, Raspberry Pi, GPS* June 2020 – Oct 2021

- Development an Autonomous Ground Vehicle with robust guidance and navigation control.
- Implemented autonomous maneuvering using **MPU9265 IMU** 9DoF compass with **Mahony filter**.
- incorporated **real-time video** streaming, enabling advanced object detection and classification functionalities.

Vital Watch 🔗 | *C/C++, Typescript, CSS, Python, Raspberry Pi, GSM* Sept 2022 – Oct 2022

- A real time **vitals monitoring** and **alarm system** designed for threat detection.
- Implemented real-time monitoring using **MQTT**, following a **Publish-Subscribe** architectural paradigm.
- Incorporated **Geo-tagging** through the integration of the **NEO-6M GPS Module** with the **pi pico SDK**.
- Facilitated communication between various sensors and the **Raspberry Pi Pico** using the **I2C protocol**.

Micromouse 🔗 | *C/C++, Raspberry Pi SDK, PID* May 2023 – Jul 2023

- A **maze solving** robot utilizing **flood fill** algorithm for finding shortest path for maze solving.
- Implemented a **high-pass filter** on **infrared (IR) sensor** readings to enhance data accuracy.
- Applied **PID** (Proportional-Integral-Derivative) closed-loop control algorithm to precisely govern motor movements.