Sayyad Abid

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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**.

Projects

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 capabilities using **Node.js**, following a **client-server** 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**.

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.

MAX30102 Driver | *C/C++, ZephyrOS* June 2023 – June 2023

- Designed and implemented **MAX30102 Driver** for interacting with **MAX30102** sensor on **ZephyrOS**
- Incorporated **mode-switching** between **heart rate** and **SPO2** measurements, enhancing the versatility.
- Ensured reliable and high speed data communication using **I2C protocol**

Micromouse | *C/C++, Raspberry Pi SDK, PID* May 2022 – Present

- 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.

Education

SRM University Chennai, TN
Bachelor of Technology in Computer Science and Engineering - 8.90 (CGPA) *Sept. 2021 – Present*

Army Public School Ahmedabad, GJ
XII - 91% *July. 2009 – May 2021*

Technical Skills

Python, C/C++, SQL , JavaScript RTOS, ROS, GPS, Node.js Git, Vim Pandas, NumPy, Matplotlib, Arduino

Positions of Responsibility

Next Tech Lab Sep. 2021 – Present
Tesla Lab for Robotics Research, Head *Chennai, TN*

- Next Tech Lab is a **QS Award** winning multi disciplinary lab
- Head of operation at the Tesla Domain of the Next Tech Lab.
- Developing and researching **Embedded Systems and Robotics**