

EXPERIENCE

- **PathPartner Technology** Bangalore, IN
Software Engineer: Embedded Systems *Jan. 2021 to present*
 - **Android Linux:** Working on Development of Audio Features for Mobile/Television Devices(based on Qualcomm and MediaTek chipsets) and porting the same across different Android(AOSP) Versions
 - **DSP Integration:** Developing APIs and tools for communicating with DSPs on the system(internal and external)
- **Indian Institute of Science(IISc)** Bangalore, IN
Research Intern *Jan. 2020 to Jan 2021*
 - **Robot design:** Worked on Design, Assembly and Programming of Delta bot(3 degree of freedom) and Omni Directional bot
 - **Multi Robot Environment:** Proposed a multi-core simplex architecture for security in Multi Robot Environment. Developed a platform(with Zabbix) for storing and monitoring various performance parameters which could affect security.
- **Indian Institute of Science(IISc)** Bangalore, IN
Summer Research Intern *Jun. 2019 to Jul. 2019*
 - **Trilateration algorithm:** Worked on Implementation of Trilateration algorithm (based on RSSI) on TI-RSLK
 - **Self Localizing Robot:** Developed a self localizing robot using Robot System Learning Kit and Zigbee modules

PROJECTS

- **Adaptive Embedded Control System:** Implemented an Adaptive Fuzzy-PID Control System for controlling various parameters of an industrial Furnace. Implemented a Wireless Sensor Network for Data aggregation and processing.
- **ECG Data Reduction Algorithms:** Implemented AZTEC, TP and DCT algorithms for reducing the size of ECG data without losing essential information.
- **Smart Speed Governor:** Developed an IoT application to limit the maximum speed of a vehicle in real-time based on the traffic intensity in the particular locality.
- **FreeRTOS Projects:** Implemented various features of FreeRTOS on ESP32 microcontroller.
- **NIE Summer of Code (Projects on ESP 32):** Built Projects like Web server, Bluetooth SD card reader, Remote Temperature logger, OTA, Web Client, etc. using ESP 32 and SD card module.
- **Operating Systems: Scheduling Algorithms:** Implemented FCFS, SJN, Round Robin and Priority based scheduling algorithms. Simulated OS processes to compare the performance of individual algorithms.
- **QM solver:** Developed a command line application(written in python) to find minimal expressions for digital circuits by implementing Quine Mcclusky Algorithm.
- **Presenter:** Developed an Android app for remotely controlling presentations built using RevealJS (Integrated with Google Firebase).

ENGINEERING SKILLS

- **Embedded Systems:**
 - **Microcontrollers and Microprocessors:** Beaglebone, Altera FPGA, Raspberry Pi, STM 32/8, Arduino(ATmega), ESP 8266/32, 8051, x86
 - **Programming Languages and Tools:** Assembly, Embedded C, Verilog HDL, MicroPython, Keil uVision, KiCad
 - Android Linux and Linux Device Driver Development, Android/Embedded Audio Frameworks
 - Real Time Operating Systems and Communication Protocols
- **Computer Programming:**
 - **Programming Languages:** C, C++, Python, PHP
 - **Computer Networks (IP Networking):** NS2, GNS3
 - Full Stack Web Development & Android Application Development

EDUCATION

- **The National Institute of Engineering** Mysore, IN
Bachelor of Engineering in Electronics and Communication; CGPA - 9.08/10.0 *Aug. 2016 – Aug. 2020*

LEADERSHIP EXPERIENCE

- **Mysuru Hub Incharge – IEEE Bangalore Section SAC:** Led and coordinated collaboration events between 5 student branches in Mysore consisting of over 750 students.
- **Vice Chairperson – NIE IEEE Student Branch:** Led a team of 13 members, organizing over 70 events and 4 technical fests. Developed 2 Android apps and a Website for Events.
- **Student Coordinator – IEEE India Council:** Been a part of Student Co-ordination Team, Worked for Online Training and Webinar team, Led the website team for AISYWC'19.
- **Webmaster – IEEE 5G World Forum:** Managed the website of 5G world forum for the year 2020.

ACHIEVEMENTS

- **Outstanding Student Volunteer:** IEEE India Council(for the year 2020)
- **Outstanding Student Volunteer:** IEEE Bangalore Section(for the year 2019)
- **Best Website Award:** AISYWC'18
- **Secured state wise 2nd rank:** National Means cum Merit Scholarship Exam (2011)

WORKSPACES

- **GitHub:** github.com/shashank-simha
- **Personal Website:** simha.me