

Shaikh Shoaib Bilal

Email: shoaibshaikh3975@gmail.com

LinkedIn: www.linkedin.com/in/shoaib-shaikh-b98162176

Phone: [8928904623](tel:8928904623)

Objective

I have a passion to solve problem with the help of technology. Eager to apply academic knowledge and hands-on project experience to contribute to innovative embedded solutions in a dynamic tech environment. Seeking an entry-level position to further develop technical skills and contribute to the advancement of cutting-edge embedded technologies.

Skills

Microcontroller: STM32f103c8t6, STM32F407G ,8051.

Protocols: GPIO, I2C, UART, SPI, CAN, Timer, Interrupt, TCP, UDP, Bluetooth.

Other: Arm Cortex M3/M4 processor, Embedded C, FreeRTOS, 8051 Assembly, Basics of Java and python, STM32 HAL, Bare metal, PCB designing, Eagle, Nodemcu, Raspberry pi, Agile practices, Breakpoint, Logic Analyzer, Debugging, Oscilloscope, Reading Datasheet.

Tools: Git, Jira, Kikad, Eagle, Diptrace, Systemview Segger

Education Qualification

Post Graduate Diploma, Embedded System Design (August 2019 - January 2020)

Centre of Development of Advanced Computing (CDAC), TICA, Mumbai

Achievements: Received Grade A

Courses: Programming in Embedded C, Microcontroller and Interfacing, Embedded hardware design and Development

Bachelor of Engineering, Electronics and Telecom. Engineering (June 2016 - May 2019)

M H Saboo Siddik college of engineering, Mumbai

Achievements: Was a qualifier in Texas Instruments India innovation challenge 2018

Went till the prototype round in Smart India Hackathon 2019 for Project: Smart Gym Trainer.

Academic Projects

GitHub link- <https://github.com/shoaib-bilal>

Hands on FreeRTOS with STM32

(Oct 2024- Dec 2024)

- Written .C application to use various FreeRTOS APIs such as taskcreate, taskdelete, suspend/resume, queuecreate, queue send/receive, timer, xtasknotify/wait, synchronization between multiple task or task and interrupt using task notify, Queues, Timers, Binary/Counting semaphore and Mutex.
- Observed tasks on Segger Systemview. Debugged same using breakpoint and displaying message over UART and observing it on TeraTerm.

Bare metal driver development

(Jan 2024- August 2024)

- Developed Bare metal driver for STM32F103C8T6 for GPIO, SPI, I2C and UART with both Polling and interrupt capability.
- Wrote application for each to test sending receiving data between STM32 and Arduino and analyzed them all using Logic Analyzer.
- Used logic analyzer, Breakpoint to debug when encountered errors.
- Wrote application to read MPU6050(Accelerometer sensor) linear and angular acceleration values via I2C, appended distinct header before linear and angular values and transmitted the same via UART.

CAN Normal and Loop back mode

(Aug 2024- Sept 2024)

- Developed code for CAN loop back using HAL libraries, debugged using SWV/Open OCD/breakpoint as well as logic analyzer.
- Developed code for CAN Normal mode for communication between 2 nodes (STM32f407g and STMf103c8T6) . From Node 1 sent a value (1-4) every 1 sec to turn ON Led corresponding to Led no. at node 2. Used Timer6 to generate delay.
- Sent remote frame from N1 to N2 requesting 2 bytes of data.

Smart Gym Trainer

(Nov 2019 - Jan 2020)

Centre of Development of Advanced Computing (CDAC), Mumbai-India

- The project aims to correct the exercise form (Posture) with the help of wearable sensors, raspberry pi and feedback from the buzzer.
- Data set of correct exercise was collected by performing various exercises wearing the wearable comprising of mpu6050, HC05, LIPO battery.
- Four exercises are performed 40 times for 4sec. A classifier model is built to classify between correct and incorrect form and hence notify user. the sampling rate is chosen as 50Hz. Four exercises are covered biceps, triceps, fly and one-hand-up.

Real time patient monitoring system

(June 2018 - May 2019)

M H Saboo Siddik college of engineering, Mumbai

- It was a system build to sense and transmit the patient vital health parameter such as blood pressure, heart rate and temperature to google firebase cloud and subsequently send it to an android app which was developed using MIT app inventer.
- Node MCU was used a micro-controller, Sunrom blood pressure sensor, DS18B20 temp sensor probe, and heart rate sensor module to sense heart rate.

Work Experience

Senior Software Analyst at Capgemini, India

(March 2021 - Present)

- Working as a Level 2 system engineer SME, completed various cutover projects for retail Infrastructure. Took more hands-on role in implementing new changes in the infrastructure while coordinating closely with the client and internal teams.
- Providing 700+ retail stores IT infrastructure support for retail Point of sale devices, Desktop, O365, Printers, Peripherals, IPAD, Microsoft Intune, Network and laptops and providing resolution within the SLA.

- Working on Microsoft Intune to manage iPads remotely, pushing policies, assigning profiles, and Wiping devices. Coordinating with the depot to send replacement iPad to stores.
- Developed Powershell script to automate a fix to solve problem of Ethernet adapter of POS device switching to static IP, making it offline and hampering business.
- Handled escalations from brands and internal teams.

Software Analyst at Capgemini, India

(March 2020 – March 2021)

- Worked as a SME for L1 team (Retail infraIT support), took technical and leadership responsibilities as an SME, handled escalations proactively.
- For retail chain (700+ across USA & Canada) Solving the problems pertaining to POS device, Network, 0365, Windows, Credit card machine, Printer, Computer hardware/software, AD.
- Co-ordinated with the on-site technician to replace/troubleshoot peripherals to solve windows and network issues. Also, corrected discrepancies in tech in/out time to reduce the billing.
- Received formal recognition and appreciation from the senior management for exceptional performance in proactively optimizing team bottlenecks.
- Provided KT and reverse shadow to new team leads and 13+ new associates, supported team whenever required.

Certifications

- Completed Bare Metal driver development course by Fastbit Embedded Brain Academy.
- Completed Foundation course on Embedded C programming using STM32.
- Microsoft Azure Fundamentals.
- Introduction to IOT board programming.
- CEFR Speaking, Listening, Writing and Reading by British council. (Passed by top grade C)

Extra-Curricular Activities

- Was a qualifier in DST & TEXAS Instruments India Innovation Challenge Design contest 2018, Anchored by IIM, Bangalore.
 - Went till prototype round in Smart India Hackathon, 2019
 - Completed 2 Day workshop on Matlab.
 - Participated in 2nd National Level Project Competition Held at Universal College of Engineering
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