

Janhvi Dixit

Embedded Engineer
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SUMMARY

Results-driven Embedded Engineer with experience in designing and developing embedded systems. Proficient in Embedded C, microcontrollers, embedded operating systems, and communication protocols. Demonstrates strong debugging and problem-solving skills. Seeking challenging opportunities to contribute to cutting-edge technology projects.

EDUCATION

- **Centre for Development of Advanced Computing** Pune
Post Graduate - Diploma in Embedded Systems and Designs September 2022 - March 2023
79.8 %
- **Institute of Engineering & Technology** Faizabad
Bachelor of Technology in Electronics and Communication Engineering June 2018 - August 2022
75.4%

SKILLS

- **Hardware Platforms:** ARM Cortex M4, STM32, Raspberry Pi
- **Operating Systems:** Linux, FreeRTOS
- **Protocols & Peripherals:** SPI, UART, I2C, GPIO, PWM, Timers, Interrupts, DMA
- **Programming Languages:** Embedded C, C++, Assembly Language
- **IDEs:** Keil uVision, STM32Cube, VS Code
- **Version Control Systems:** Git, Tortoise SVN
- **Debugging Tools :** Segger SystemView, ST-Link, SWD, JTAG, GDB, OpenOCD

EXPERIENCE

Centre for Development of Advanced Computing

- Project Engineer Pune
April 2023 - Present
 - Simulated ARM processor environments using advanced tools like QEMU and Renode for system validation and testing.
 - Authored Makefiles, linker scripts, and startup code for hardware-software integration.
 - Developed bare-metal drivers for communication protocols (UART, SPI) and peripherals (Timers Interrupts, PWM).
 - Leveraged CUDA to develop cryptographic algorithms for high-performance computing (HPC) architectures.
 - Conducted security analysis for data encryption, ensuring high standards of entropy validation.
 - Published conference paper detailing performance benchmarks of HPC systems.

PROJECT

- **Real-Time Alcohol and Accident Detection System**

This project addresses alcohol-related accidents by implementing a real-time system using IoT and RTOS for vehicles. It collects data from sensors (Accelerometer, MQ3, GPS, GSM) to ensure driver safety, contributing to safer roads.

- **Women's Self Defense Wristwatch**

Developed a smart wearable device designed for women's safety, allowing users to alert nearby authorities with a single button press. The system integrates embedded technology for quick, cost-effective personal protection, utilizing Arduino programming and peripheral interfacing for seamless operation.

PUBLICATION

"Preliminary Implementation of Toeplitz Hashing on Processor, Co-Processor, and SoC" 2024 16th International Conference on COMmunication Systems & NETworkS (COMSNETS) DOI: 10.1109/COMSNETS59351.2024.10426925.