Vasana Kusuma

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CAREER OBJECTIVE

Keen to contribute to an innovative organization in the embedded systems domain by applying my knowledge of programming, microcontrollers, and communication protocols. Dedicated to delivering efficient and reliable embedded solutions while continuously enhancing my technical skills and contributing to the success of challenging projects.

ACADEMIC CREDENTIALS

Sri Vasavi Institute of Engineering and Technology, Nandamuru – 521369
B. Tech in Electronics and Communication Engineering
Duration: 2021 – 2024
CGPA: 8.34 / 10.0

Sri Vasavi Institute of Engineering and Technology, Nandamuru – 521369
Diploma, SBTET
Duration: 2018 – 2021
Percentage: 96%

Z.P. High School, Mallavolu – 521149
Secondary School Certificate
Year: 2018
Percentage: 93%

PROFESSIONAL EXPERIENCE

- Mirafra Software Technologies, Hyderabad, Software Engineer I , 19th June,2025-Present.

SKILLS

- **Programming Languages**: C,Data structures, C++, Embedded C.
- **Embedded Systems**: LPC2129 Microcontroller.
- **Tools & Technologies**: Keil µVision.
- **Bus Protocols**: UART, I2C, SPI, CAN.
- **Operating Systems**: Linux (System Programming).
- **Device Drivers:** Character Device Drivers (IOCTL,IRQ,Tasklets,Work Queue,Wait Queue,Kthreads), Platfrom Drivers(GPIO Driver,UART Driver,I2C Driver),Memory Leaks and crash dump analysis.

PROFESSIONAL TRAINING

- Embedded Systems Course, Vector India Hyderabad (September 2024-May 2025)

PROJECTS

Kernel-Level Multi-System Game Interface Using Sockets, UART, I2C OLED, and ALSA Audio.

- Designed and implemented a real-time interactive game system across two x86 machines and a Raspberry Pi using Linux kernel modules**.**
- Captured user input via keyboard IRQ and initiating communication over TCP sockets.
- Designed custom UART kernel drivers for Raspberry Pi to receive data and handle user guesses.
- Displayed game prompts using I2C OLED and delivered outcome via ALSA audio playback.

Data-Driven Vehicle Control Using CAN Protocol

- Implemented vehicle functions like engine temperature display, reverse alert, and window control using LPC2129 and CAN protocol.
- Interfaced DS18B20 (temperature sensor), GP2D12 (distance sensor), LEDs, LCD, and switches.
- Developed multi-node communication (main, reverse alert, window control) with Embedded C and Keil.

Medicine Reminder System

- Developed a real-time medicine alert system with RTC, LCD, keypad, and buzzer.
- Programmed in Embedded C for timely alerts and user interaction.

Train Ticket Booking App

- Implemented sign-up/sign-in, booking, cancellation, and train info features.
- Used structures, dynamic memory allocation, SLL and file handling.

ACHIEVEMENTS & ACTIVITIES

- Elite Certificate in Digital Circuits course from NPTEL.
- Participated in 'Design and Implementation of Low-Cost & Highly Reliable Embedded Systems' workshop (ECE Dept., 2021).

PERSONAL DETAILS

- Languages Known: English, Telugu
- Hobbies: Pencil Art

DECLARATION

I hereby declare that the above information is true to the best of my knowledge and belief.

(v.kusuma)