NIRMAL M

Embedded Engineer | Ph: +91 7010130581 | Mail : nirmal130902@gmail.com
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TECHNICAL SKILLS

- Language - **C, Embedded C, Verilog HDL, VHDL**.
- Integrated Development Environment -**KEIL uVision 5, Proteus 8, MPLAB X IDE v6.20, Altera Quartus || 8.1, STM32CUBE IDE.**
- Layout Tools - **Microwind.**
- **MATLAB/SIMULINK**.
- Commmnication Protocols - **USART, SPI, I2C.**

AREA OF INTEREST

- Digital Electronics .
- Embedded Systems - Firmware development .
- Microcontrollers & Microprocessors .
- Analog and Digital Circuits.
- Debugging

MICROCONTROLLERS:8051, PIC16F877A, STM32F401RET6

PROJECTS

Developed a microcontroller-based digital lock system using STM32, keypad interface, and LCD, emphasizing embedded C programming and electronic circuit design. **July 2025**

- Designed and implemented a digital locking system using the STM32 microcontroller to enhance security through password authentication.
- Integrated a 4x4 keypad for input and an LCD display for user interaction.
- Used MPLAB and Proteus for development and simulation respectively.
- Focused on hardware interfacing, system logic, and user authentication features.

Designed a system to measure AC voltage and current using the ACS37800 with I2C communication. The system trigger alerts when voltage drops below 210V or current exceeds 15A. **April 2025**

- The voltage and current will be sensed and will be in the register of ACS37800 IC.
- Using I2C communication that data will be received by PIC16F877A.
- When the voltage goes below 210V or current value goes below 15A ,the microcontroller will trigger the buzzer.
- RTC(Real Time Clock) module DS3234 is used in this project ,through SPI communication the values are read by PIC16F and converted from BCD to decimal for displaying in the LCD module.

Development of SIngle Input Dual Output DC-DC Converter using PI controller **January 2024 - May 2024**

- The two outputs of the converter can be independently controlled from a single input.
- The intended output voltage was attained, and a stable output was produced with the aid of a PI (proportional integral) controller.
- Input voltage was 24 V, with the help of PI controller the reference voltage can be setup to 100 V-150 V .

EDUCATION

B.Tech in ELectrical and Electronics Engineering
Puducherry Technological University (2020-2024)
CGPA : 8.71

Higher Secondary
Vidhya Bhavan Higher Secondary School (2020)
Marks % : 84.33

High School
Seventh-day Adventist Higher Secondary School(2018)
Marks % : 96.6

CERTIFICATIONS

- **EMBEDDED C.**
- **VLSI DESIGN.**
- **C PROGRAMMING.**
- **NPTEL Online Certificate.**

SOFT SKILLS

- Verbal Communication
- Creative thinking
- Adaptability
- Patience
- Attention to detail
- Problem Solving