

# Neelam Saidulu

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## Career Objective

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Enthusiastic Embedded Systems trainee with a strong foundation in Electronics and Communication Engineering. Skilled in C, C++, Embedded C, ARM microcontrollers, and communication protocols (I2C, SPI, UART, CAN). Currently enhancing expertise in Embedded C and practical embedded systems applications.

## Education

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### GDMM College of Engineering, Nandigama

2020 – 2024

Bachelor of Technology in Electronics and Communication Engineering (ECE) — CGPA: 7.56

### Teja DVR College (Intermediate)

2018 – 2020

Board of Intermediate Education, Andhra Pradesh — CGPA: 8.2

### Zilla Parishad High School (SSC)

2018

Board of Secondary Education, Andhra Pradesh — CGPA: 8.3

## Training

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### Embedded Systems – Training [Vector India, Hyderabad]

Oct 2024 – June 2025

Completed comprehensive training on **Embedded Systems**, focusing on both theoretical foundations and hands-on practical applications.

- Worked with industry-standard **ARM-based microcontrollers** such as LPC2148 and LPC2129 to build real-time embedded applications.
- Implemented serial communication using protocols like **UART, SPI, I2C**, and **CAN** in microcontroller-based projects.
- Practiced **Embedded C** programming, peripheral interfacing (LCD, Keypad, RTC, etc.), and real-time debugging using IDEs and hardware kits.
- Gained exposure to hardware interfacing, interrupt handling, timers, and memory-mapped I/O operations.
- Used development environments like **Keil µVision, Flash Magic**, and **Proteus** for coding, simulation, and debugging.

## Technical Skills

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- **Programming Languages:** C, C++, Embedded C
- **Microprocessors / Microcontrollers:** LPC2148, LPC2129
- **Communication Protocols:** I2C, SPI, UART, CAN, TCP/IP
- **Operating Systems:** Linux, Windows
- **Development Tools:** Keil uVision IDE, Arduino IDE

## Projects

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### ATM System with RFID Authentication and Backend Database [Major Project]

- Developed a secure ATM system using **RFID card authentication** and **PIN verification** to facilitate banking transactions.
- **Technologies Used:** LPC2148 Microcontroller, Embedded C, UART Communication, RFID Reader & Cards, 16x2 LCD Display, 4x4 Matrix Keypad, MAX232 Level Shifter, Buzzer, PC-side C Application with File Handling, Linux,.
- Transaction and user data are stored in human-readable **.csv** files, ensuring easy retrieval, logging, and synchronization.
- Built a real-time user verification loop using UART to communicate between the microcontroller and PC.
- Implemented basic encryption logic for secure PIN validation and user data management.

### Bank Management System [Mini Project]

- Developed a banking application to simulate core banking operations like account creation, deposits, withdrawals, balance checks, and transaction history.
- **Technologies Used:** C and Data Structures(Linked Lists)
- Implemented error-handling mechanisms to manage invalid operations and ensure data integrity during runtime.
- Designed a menu-driven interface to enhance user experience and provide seamless navigation.

### Time-Driven Access Control System [Mini Project]

- Developed a **time-based access control system** using **ARM Microcontroller** to regulate access to restricted areas based on time slots.
- **Technologies Used:** ARM Microcontroller, Embedded C, Real-Time Clock (RTC) Module, Keypad Interface, LCD, Buzzer, Interrupts.
- Designed logic to validate access credentials within specific time intervals to simulate real-time security scenarios.
- Optimized system response using hardware interrupts and timer-based event triggers.

### Customized File Listing Utility in C (Unix ls Command Emulator) [Mini Project]

- Developed a **Unix ls command emulator** in C to mimic functionalities like ls, ls -l, ls -a, ls -al, and ls -i with support for color-coded file types and symbolic link resolution.
- **Technologies Used:** C, UNIX System Calls, dirent.h, sys/stat.h, pwd.h, time.h, ANSI Escape Sequences.
- Handled symbolic links and directories distinctly with appropriate visual cues using ANSI color codes.
- Used system-level programming concepts to retrieve metadata like inode numbers, file permissions, and ownership.

### Personal Details

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**Date of Birth** : 14-05-2002

**Address** : 2-96, Boddurai Center, Village Konayapalem, Mandal Chandarlapadu, District NTR, Andhra Pradesh, 521182

**Known Languages** : English, Telugu, Hindi

### Declaration

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I hereby declare that the above-mentioned information is correct to the best of my knowledge and belief. I bear the responsibility for the correctness of the above-mentioned particulars.

**Place:** Hyderabad

**Neelam Saidulu**