

POOJA KRISHNA M

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CAREER OBJECTIVE

To seek a challenging and responsible role in the electronics industry as an Embedded Software Engineer, where I can contribute effectively, learn new technologies, and grow as a technical expert.

WORK EXPERIENCE

- Currently undergoing technical training program – **Advanced Embedded Systems Course** at Emertxe Information Technologies (<http://www.emertxe.com>) Bangalore.
- This course is Government of India certified program, aligned with **Skill India** / NSDC under Electronics Sector Skill Council of India (<http://www.essc-india.org>) - **Embedded Software Engineer QP ELE /Q1501**

TECHNICAL SKILLS

- Programming Languages:
 - Shell scripting
 - Advanced C programming
 - OOP using C++
 - Data structures
 - System programming:
 - Linux Kernel system calls
 - IPC mechanisms – Pipe, FIFO, Shared memory
 - Network Programming using TCP and UDP sockets
 - Embedded Linux:
 - U-boot, cross compiling, porting Linux kernel
 - Embedded controllers:
 - Hands-on working with GPIOs, Analog I/Os, Memory usage, interfacing, character LCD
 - Peripheral usage - Timers, Counters and Interrupts
 - Communication protocols - UART, SPI, I2C
 - Embedded platforms:
 - Distributions - Linux (Fedora / Ubuntu)
 - PIC (18F4520) board
 - Development environment and tools:
 - Dev environment: Vim, Makefiles, MPLAB, Visual Studio Code
 - Compilers: GCC, XC8, ARM-Linux-gcc
 - Debuggers: GDB
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COURSE WORK

- Microprocessor
 - Digital Electronics
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EDUCATION

- MSc (Physics with specialization in Applied Electronics), University of Kerala Karyavattom Campus, Kerala University, 90.4%, 2022-2024
 - Diploma in Computer Application, Centre for Development of Imaging Technology, 82.6%, 2022
 - BSc (Physics), SNCW Kollam, University of Kerala, 75.2%, 2019-2022
 - Class – XII, CBSE, 84%, 2019
 - Class – X, CBSE, 95%, 2017
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PROJECTS AT EMERTXE**Project Number:1**

Title	Image Steganography using LSB Encoding and Decoding
Project brief	The objective was to send a secret text file encoded inside an image of bmp file format. Encoded the length of the secret text and then encoded the data into the LSB of the image bytes. The decoding process involves decoding the length and then decoding the text bit by bit. The final output is the secret text after decoding.
Technologies used	Embedded C – File operations, Pointers, Bitwise operations, Functions, Makefiles, Command line arguments

Project number:2

Title	Address Book
Project brief	An Address book project that allows users to create, view, and manage contacts. It ensures unique phone numbers and email Ids, supports saving data to a file, and provides an option to persist changes when exiting
Technologies used	Advanced C – Function pointers, Dynamic memory allocation, String manipulation, File Operations, Pointers

Project number:3

Title	Arbitrary Precision Calculator
Project brief	A calculator that handles extremely large numbers with precision beyond standard data types. It supports basic arithmetic operations, ensuring accurate results for calculations involving very large numbers to small numbers.
Technologies used	Advanced C, Data Structures & Algorithms, Pointers, Functions, Linked lists, File operations

Project number:4

Title	Inverted Search
Project brief	Inverted Search is a project that involves creating an inverted index from a set of text files. An inverted index is a data structure commonly used in search engines to map words (or keywords) to the files in which they appear, making searches faster and more efficient.
Technologies used	Advanced C, Data Structures & Algorithms, Pointers, Functions, Linked lists, File operations

Project number :5

Title	Car Blackbox
Project brief	It is a project based on the design and implementation of a black box for vehicles that records key information before, during, and after an accident- similar to an aircraft black box. This data can help accident investigation, driver, improve road safety and behavior monitoring.
Technologies used	Communication protocols, digital keypad switches, External EEPROM, CLCD, PIC16F877A Microcontroller