

SURENDRA KUMAR PARADESI

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CAREER OBJECTIVE

Looking for a challenging and responsible opportunity and grow in the electronics industry by becoming an Embedded Systems Engineer. Learn new technologies and grow as a technical expert.

TECHNICAL TRAINING

- Technical training program had completed – **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
 - pThreads – Multi thread programming
- Embedded controllers:
 - Hands-on working with GPIOs, Analog I/Os, Memory usage, interfacing, character LCD
 - Peripherals usage - Timers, Counters and Interrupts
 - Communication protocols - UART, SPI, I2C ,CAN,etc
- Embedded platforms:
 - Distributions - Linux (Fedora / Ubuntu)
 - PIC (18F4580) board
- Development environment and tools:
 - Dev environment: Vim, Makefiles, MPLAB, Qt Creator
 - Compilers: GCC, XC8, ARM-Linux-gcc, Stm32cubeIde
 - Debuggers and simulation: GDB ,proteus

COURSE WORK

- Microprocessor and Microcontroller
- Digital Electronics

EDUCATION

- Embedded system course ,Emertxe information technologies ,2023-2024
- B.tech , Civil engineering, RGM CET, 6.5 CGPA, 2018-2022
- Class – XII, Board of intermediate education , 93.35%,2016- 2018
- Class – X, Board of Secondary education ,8.0 CGPA, 2015-2016

PROJECTS

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
Key challenges & Learnings	<ul style="list-style-type: none">→ Understanding of pixels and header of image file by doing literature study→ Transforming the embedded information to the destination without changing properties of original image→ Faced challenges while doing bitwise manipulation of data to embed as well to retrieve the data from the destination image which was solved by self-understanding

Project number:2	
Title	Address Book
Project brief	Developed a console-based Address Book application allowing users to add, search, edit, and delete contacts. Enhanced proficiency in core C programming concepts.
Technologies used	Advanced C – Function pointers, Dynamic memory allocation, File input/output handling
Key challenges & Learnings	<ul style="list-style-type: none">→ Function pointer declaration and assigning right address was a challenge, faced multiple segmentation faults using the same.→ Files are open and close was challenging and how to save the file with content .→ Library files are such as,fopen,fclose,fseek,fread,fwrite and system library files are to be learned

Project number:3	
Title	Inverted search

Project brief	An inverted index is an index data structure storing a mapping from content such as words or numbers ,to its location in a database file ,or in a document or a set of documents .Created an inverted index data structure for efficient full-text searches. Implemented hash algorithms for quick data retrieval.
Technologies used	Advanced C – Hashing, Single linked list, File input/output handling
Key challenges & Learnings	<ul style="list-style-type: none"> → Function pointer declaration and assigning the right address was a challenge, faced multiple segmentation faults using the same. → This project is very tough and facing the lot of challenges and got the so many errors → Ask the mentors and support the friends so I learned good concepts upon this project

Project number:4	
Title	Car black box
Project brief	Designed an event data recorder for automobiles to monitor and record electronically sensed events.Enabled proactive maintenance by detecting engine faults and monitoring fleet activities.
Technologies used	Pic microcontroller & schematics ,Peripheral(understanding the data sheets), Interrupt handling
Key challenges & Learnings	<ul style="list-style-type: none"> → During the project I faced difficult situations and challenges to come back to the project explanation .I asked the mentors about the project . → Every circumstance I was understood and daily asked about projects and noted every point . → Detailed i can't understand the project daily doing a practice and facing the challenges in this project .

Project number:5	
Title	Minishell
Project brief	.Mini shell is a command processor, typically run in a text window, allowing the user to type commands which cause actions. Every Operating System provides this Command Line Interface (CLI) which takes commands from the user and provides required output. BASH can also read commands from a file, called a script. Like all Unix shells, it supports piping and variables as well.
Technologies used	Linux kernel system call usage , IPC-Signal handlings, Strings pointers and parsing
Key challenges & Learnings	<ul style="list-style-type: none"> → During the project I was faced with difficult situations and challenges to come back to the project explanation .I asked the mentors about the project . → Doing daily practice and asking the mentors and friends . → During the project every line I understood and went to the next process..

Declaration :

- Driven and adaptable, I am excited to kickstart my career, applying my education and skills to contribute energetically in a challenging and growth-oriented professional landscape.