

GULSHAN KUMAR RANA | TRAINEE ENGINEER | ECE 2024

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SKILLS

Programming Languages

- C
- C++
- Embedded C
- Unix Programming
- Bash
- Python

Embedded C (LPC2129)

- UART
- SPI
- ADC
- I2C
- CAN

Unix

- Sockets (TCP/ UDP)
- IPC
 - Fifo / Pipe
 - Message Queue
 - Shared Memory
 - Semaphores

AWARDS

Hackathon Winner | 3rd Prize | Vector India

- **Real Time IOT data collection using LPC2129** : Real time interaction with the **LPC2129** microcontroller using **HTTP** and **C Sockets** custom libraries to set the **baud rate** to communicate using **UART**.
- **Tech Stack** : C, Embedded C, C Sockets.
- **Protocols** : UART, ADC, HTTP, TCP.

PROFESSIONAL EXPERIENCE

IT Technician, PIIT Services Pvt Ltd. | Gwalior, MP

Feb 2023 – Sep 2024

- Managing infrastructure of **300+** system, deploying private **exam** and **voip** servers.
- Scaled and maintained the setup in different locations (**Mumbai, Pune, Nagpur, Gwalior, Jabalpur**) to **200+** system each.
- Window Server installation and configuration at **DRDE Gwalior**.

EDUCATION

B-TECH (ECE) | Rustamji Institute of Technology (RJIT) | Gwalior, MP

Sep 2020 – June 2024

[Major Project] Object Detection System using **Arduino UNO**.

PROJECTS

Project: Decoupled UNIX Socket Logging Daemon

A robust logging system that uses high-speed, local inter-process communication (IPC) to reliably stream application logs to a separate, dedicated persistence daemon.

- **System Calls** : `socket()`, `bind()`, `sendto()`, `recvfrom()`, `unlink()`, `fopen()`, `close()`.
- **Features**: By using a non-blocking UNIX socket to instantly hand off log data to a separate, dedicated logger daemon, the main application minimises the risk of losing critical crash-time messages that would otherwise be stuck in its memory buffers.
- **Link**: github.com/protectmango/Linux_Labs/

Project: Real Time Dashboard using CAN

A simple implementation to utilise different protocol (**SPI, UART, CAN, ADC**) and interrupts to achieve a simple Car Dashboard prototype.

- **Features**: Utilising Embedded C projects that uses CAN, External Interrupts, Registers, and Timers to create real time dashboard using LPC2129.
- **Link**: github.com/protectmango/ARMTDMI-Programming/

Project: C Student Database

A Real time database that perform **READ, ADD, EDIT, DELETE** with a beautiful CLI using basic C.

- **Features**: My first C projects that utilises strings, file, structure to create a minimal student database.
- **Link**: github.com/protectmango/C_Basic_To_Advance/

Note : You can [visit my github](#) for my recent projects and Open source contributions.