

RUDRA PRATAP ROHAN

+91-8297729921

rudraprataprohan@gmail.com

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EDUCATION

Manipal Institute of Technology

B.tech ELectionics and Communication Engineering - **CGPA - 8.29**

2021 – 2025

Bengaluru, India

COURSEWORK / SKILLS

- Signals & Systems
- Microwave Engineering
- Control Systems
- Digital System Design
- Low Power VLSI Design
- Antenna Design
- Analog Circuits
- Physical Design

PROJECTS

Voting machine using Xilinx FPGA | Verilog HDL

10 2022

- Developed a voting machine using Hardware Description Language (HDL) and implemented it on an FPGA to simulate real-world election systems.
- Created two operational modes: Voting mode for casting votes for different candidates, and Tallying mode to display the total votes each candidate received.
- Successfully integrated a security feature by adding a key system through FPGA switches, ensuring secure voting and accurate tallying. The design worked flawlessly post code implementation on the FPGA.

Antenna Array for vehicular communication | CST studio SUITE

02 2024

- Designed and implemented a high-performance antenna array for vehicular communication, aiming to enhance signal strength and reliability in various scenarios
- A microstrip patch antenna was designed in CST studio SUITE with various parameter.
- Design was tested and simulated in CST microwave studio ,Vehicle to Vehicle communication was aimed so that we avoid accidents on front on collisions or back on collisions.
- Enhanced data transmission rates by 2x , enabling faster and more reliable exchange of information between vehicles and infrastructure.

PnR flow Implementation of SPI using Q-flow | Q-Flow

06 2024

- Designed and implemented a Serial Peripheral Interface (SPI) using Q-flow, covering synthesis, placement, routing, and verification.
- Conducted Design Rule Check (DRC), Layout vs. Schematic (LVS), and Static Timing Analysis (STA) to ensure design accuracy.
- Generated final physical layout and GDSII file for fabrication using Magic and Qrouter tools.

INTERNSHIP

Maven Silicon

05 2024 – 07 2024

Physical Design Trainee

Remote, India

- Worked on the full VLSI design flow, including synthesis, placement, routing, and verification, using the Q-flow toolchain during the physical design of a Serial Peripheral Interface (SPI).
- Performed critical verification processes like DRC, LVS, and STA to ensure the design met all timing and fabrication requirements.
- Automated design tasks using scripts and optimized design stages by analyzing log files to improve workflow efficiency.

TECHNICAL SKILLS

Languages: C/C++, Python, Verilog HDL ,ARM7,Tool command language(TCL)

Softwares Packages: Mentor Graphics, MATLAB, P-spice, AutoCAD, Xilinx Vivado ,CST microwave studio , code composer studio, Keil uVersion4 , LabView , Q-Flow ,Cadence Virtuoso/Innovous

Micro-controller boards: Arduino, Nexys Artix - 7 FPGA board , Raspberry pi , LPC2148 ,ESP32

CERTIFICATIONS

- Completed online B.Sc degree from IIT Madras in Data Science and Programming till foundational level.
- Programming for Everybody
- Introduction to packet Tracer by Cisco
- Networking Essentials by Cisco