Himanshu Shekhar

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EDUCATION

Netaji Subhas University of Technology, Delhi **2021 - 2025**
B.Tech in Electronics & Communication Engineering *8.23/10 CGPA*

Hope Hall Foundation School, Delhi **2018 - 2020**
Class 12 *94/100*

Kendriya Vidyalaya, ARC DDM, Assam **2018**
Class 10 *95.2/100*

COURSEWORK

Digital Circuits and Systems — CMOS Digital (VLSI) — Static timing Analysis — Computer Architecture — Analog Integrated Circuits — Embedded System Design

WORK EXPERIENCE

SLDC (a unit of Punjab State Transmission Corporation Limited) **May 2024 – July 2024**
SCADA Systems Electronics Intern *Onsite, Punjab*

- Gained hands-on experience with **SCADA (Supervisory Control and Data Acquisition) systems**, responsible for real-time data acquisition and control of power grid elements using Siemens software and hardware.
- Improved grid efficiency by upgrading SCADA/EMS hardware and software, ensuring continuous monitoring and supporting uninterrupted power supply.

PMKVY (under Dr. Rajveer S. Yaduvanshi) **June 2023 – August 2023**
Research Intern *Onsite, NSUT*

- Designed and implemented a **DRA (Dielectric Resonator Antenna)** for Wireless Power Transmission achieving an efficiency of 35% over a distance of 1 metre.

CollegeSetu (formerly KonsaCollege) **June 2022 – January 2023**
Product Intern *Onsite, Delhi*

- Collaborated with the tech team to redevelop the KonsaCollege mobile application, to better assist students in selecting the right college.
- *Outcome:* A 30% increase in user engagement and a PlayStore rating boost from 3.6 to 4.3 within the first month.

PROJECTS

Verilog HDL projects

1. **I2C Protocol Implementation:**
   - Implemented the Inter-Integrated Circuit (I2C) protocol in Verilog HDL, enabling efficient communication between microcontrollers and peripherals.
   - Designed a master-slave architecture with support for multiple devices on a two-wire bus (SDA and SCL).
   - Incorporated features like address recognition, bidirectional data transfer, and clock synchronization for enhanced protocol reliability.
2. **SPI Protocol Implementation:**
   - Developed the Serial Peripheral Interface (SPI) protocol in Verilog HDL for high-speed data communication.
   - Created a full-duplex master-slave configuration utilizing four signals: MISO, MOSI, SCLK, and SS, to facilitate synchronous communication.
   - Optimized the design for rapid data transfer suitable for applications like sensors and memory devices.
3. **UART Protocol Implementation:**
   - Designed and implemented the Universal Asynchronous Receiver-Transmitter (UART) protocol in Verilog HDL for serial communication.
   - Developed features for start-stop synchronization, data framing, and error detection to ensure reliable transmission.
   - Utilized UART for communication with various modules such as GPS and Bluetooth.

TECHNICAL SKILLS

Languages: C/C++, Verilog HDL, Kotlin
Software Tools: iVerilog, GTKwave, LTspice, MATLAB, EagleCAD, HFSS, Arduino

ACHIEVEMENTS/CERTIFICATIONS

- MOOC certification on '**FPGA Architecture and Programming**' by NIELIT Calicut
- Workshop on '**VLSI for Beginners**' by NIELIT Calicut
- NPTEL Topper (Top 2%) in Introduction to Internet of Things.