Umang Mishra

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Education

2024-26	Master of Technology, Communication System Engineering (ECE) National Institute of Technology Jamshedpur	CGPA: 8.20
2020-24	Bachelor of Technology, Electronics & Communication Engineering Dr. APJ Abdul Kalam Technical University, Lucknow	CGPA: 7.61
2020	AISSCE(12th), CBSE Vishwa Bharati Public School, New Delhi	Percentage: 82.6%
2018	AISSE(10th), CBSE Vishwa Bharati Public School, New Delhi	Percentage: 89.2%

Experience

- **Technical Intern at NXP Semiconductors**
  - As a Firmware Automotive Security Technical Intern at NXP Semiconductors, I work on writing and maintaining embedded system code focused on automotive security.
  - My role involves developing secure firmware modules, debugging low-level hardware-software interactions, and ensuring robust implementation of security features in real-time embedded environments to meet automotive safety standards.
- **Research Intern at DRDO**
  - Designed a small signal analog model of passive components using Monolithic Microwave IC technology and Advanced Design System software for defence applications.

Projects

- **Synchronous FIFO Design and Simulation using Verilog**
  - Designed and simulated a synchronous FIFO (First-In-First-Out) buffer for efficient data transfer in hardware systems.
- **Implementation of a Coin-Based Vending Machine using Xilinx Vivado**
  - Designed a Finite state machine-based vending machine in Verilog to dispense products based on user input and coin detection. Implemented and verified functionality using Xilinx Vivado with testbenches for various input scenarios.
- **Design and Implementation of 7-Segment Display using FPGA**
  - Implemented a 7-segment display controller using Verilog to display decimal digits from binary input. Deployed and tested the design on an FPGA using Xilinx Vivado for real-time visual output.
- **Efficient Multiplier Design using Booth's Algorithm**
  - Implemented Booth's algorithm in Verilog to perform high-speed signed multiplication with minimised partial products. Verified functionality through simulation and achieved efficient hardware utilisation using Xilinx Vivado.

Technical Skills

- **Languages:** C, C++, Python, MySQL, Verilog
- **Tools:** Cadence Virtuoso, Xilinx Vivado, EDA Playground
- **Frameworks:** MATLAB, Simulink
- **Operating System:** Windows, LINUX
- **Area of Interests:** Embedded Systems, Digital Electronics, VLSI, Analog Electronics.

Certifications

- Electronic Devices
  (All India Council of Technical Education)
- Digital System Design
  (All India Council of Technical Education)
- Introduction to Internet of Things & Embedded Systems
  (Coursera)

Academic Achievements

- Qualified **GATE-2024** in **Electronics and Communication**.
- Qualified **JEE (MAIN) 2020**

Extra-Curricular

- President, Aeronautical Society, IPEC, AKTU
- Core member at UDBHAV, 2024(Annual Techno - Cultural Fest), IPEC.