Shaik Shaheed

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**Career Summary:**

Computer Engineering graduate currently pursuing a Master’s degree at San Diego State University, with a strong foundation in VLSI design, Embedded systems, and Software Development. Experienced in designing and optimizing Digital Circuits, developing neural network-based solutions, and leading teams to deliver scalable web applications. Skilled in using tools like Cadence Virtuoso, Verilog, and Python to solve complex engineering challenges. Passionate about applying technical expertise to innovate and contribute to advancements in semiconductor and embedded systems technologies.

# Technical Skills:

* **Electronics & VLSI:** Analog & Digital Electronics, Microelectronics, FPGA Design, CAD Tools (Cadence Virtuoso, Design Compiler, Xilinx, Advanced Design System), Circuit Design & Simulation, Lab Equipment (Oscilloscopes, Digital Multimeters)
* **Programming & Scripting:** C, C++, Java, Verilog, VHDL, System Verilog, Python, TCL, Shell Scripting (Bash), MySQL
* **Simulation & Analysis:** CAD Tools (Cadence Virtuoso, MATLAB, Ansys, Advanced Design System, UVM)
* **Embedded Systems:** Low-level programming in C/C++, RTOS, Hardware Architectures
* **Version Control & Collaboration:** Git, GitHub, Perforce, JIRA, Jenkins, Microsoft Office (Excel, Word, PowerPoint)
* **Web Development:** HTML, CSS, JavaScript, Angular
* **Soft Skills:** Leadership, Problem-Solving, Team Collaboration, Critical Thinking, Adaptability

# Professional Projects:

**Neural Network-Based Video Processing Block for Color Detection**

# Designed and implemented a neural network in Cadence Virtuoso to process RGB inputs and classify colors, achieving 95% accuracy in color detection. Developed neuron blocks using schematic capture, layout design, and DRC/LVS verification, ensuring optimal performance for future hardware integration.

# Diagnosed and resolved design issues independently while working with FinFET technologies and gaining hands-on experience with layout effects.

# Applied knowledge of semiconductor process flow, device layout, and circuit operation to refine the system for FPGA implementation.

# Microstrip Line Design and Analysis

* Calculated and verified characteristic impedance using HFSS and TX-Line, maintaining deviations within 5%.
* Optimized microstrip line design, achieving less than 5% deviation in characteristic impedance and reducing insertion loss by 15% at frequencies up to 20 GHz.
* Developed a strong understanding of microwave theory and RF circuit design, optimizing signal integrity.

# Design and Implementation of 16-Bit Arithmetic and Logical Unit (ALU)

* Designed a 16-bit Arithmetic and Logical Unit (ALU) in Verilog to perform various arithmetic and logical operations efficiently.
* Simulated and tested the ALU to ensure functionality, accuracy, and performance.
* Followed RTL design principles to create an optimized and scalable digital circuit.

**Excellence Quest – Employee Performance Tracking System**

* Spearheaded the development of a responsive web application for employee performance tracking, resulting in a 30% increase in user engagement and improved data-driven decision-making for personalized employee growth plans.
* Designed and integrated key features to monitor performance metrics, providing data-driven insights for personalized growth plans.
* Managed version control using Git and GitHub, ensuring smooth collaboration through branching, code reviews, and pull requests.

# Collaborated with cross-functional teams to streamline development workflows, reducing project delivery time by 20%.

# Work Experience:

**Software Developer, Innova Solutions September 2023-June 2024** With over a year of experience in software development, I have gained expertise in UI/UX design and the Angular framework. I have successfully led teams, coordinated tasks, and mentored junior developers. I am eager to apply my skills to tackle new challenges in the industry and contribute to the success of a dynamic organization. Currently, I am seeking internships or research opportunities to gain hands-on experience in VLSI and Embedded Systems, areas I am passionate about and eager to grow in.

# Coursework:

VLSI Testing, VLSI Circuit Design, Cyber Physical System, Analog Integrated Circuit

# Education:

**Master of Science in Computer Engineering August 2024-December 2026**

San Diego State University, California

# Bachelor of Technology in Electronics and Communication Engineering August 2019-July 2023

Vidya Jyothi Institute of Technology, Hyderabad, India **GPA:8.59/10.00**