

BALABHADRUNI SAI HARINI

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Career Objective

A passionate and motivated Electronics graduate seeking an entry-level position in VLSI Design Verification. Eager to contribute to semiconductor innovation using my skills in SystemVerilog, UVM, Verilog, and scripting, along with a strong foundation in digital design concepts and verification methodologies.

Academic Qualification

Bachelor of Technology in Electronics and Communication Engineering,

Aditya Engineering College, Surampalem, Andhra Pradesh. 2023-2026

CGPA: 8.71/10

Technical Skills

- Languages & HDLs: System Verilog, Verilog, C, CPP
- Verification Methodologies: UVM
- Simulation Tools: Cadence, Xilinx Vivado, MATLAB, Pspice, TASM, MASM, Arduino IDE
- Scripting: Python, Perl
- Protocols (Exposure/Understanding): AMBA (AXI, AHB), UART, I2C, SPI
- Others: Git, Linux, Debugging using waveform viewers

Academic Project / Internship Experience

1. FPGA controlled Automated Coffee Maker using Verilog

Tools Used: System Verilog, Cadence, Vivado

- Designed and implemented an automated coffee machine controller using Verilog on FPGA.
- Developed finite state machine (FSM) to manage brewing process, ingredient control, and user inputs.
- Integrated input modules (button interface) and output modules (LED/display for status indicators).
- Simulated and tested functional modules using ModelSim to verify correct behaviour.
- Synthesized the design on Xilinx/Intel FPGA board for real-time hardware implementation.
- Ensured timing constraints and resource optimization for reliable operation.

2. Arduino Based Car Parking System

- Developed an automated car parking monitoring system using Arduino UNO and ultrasonic sensors.
- Implemented real-time vehicle detection and slot availability tracking using distance sensors.
- Controlled entry/exit gates using servo motors based on slot occupancy.
- Displayed parking status on LCD module for user interface and guidance.
- Programmed system logic in Arduino IDE using C/C++ for embedded control.
- Ensured efficient sensor integration and reliable operation under various test conditions.

3. Accident Prevention Glasses for Drivers

- Designed wearable smart glasses to detect driver drowsiness using IR sensors or eye-blink monitoring.
- Integrated Arduino/microcontroller to process real-time eye movement and blink rate data.
- Triggered buzzer/vibration alerts to warn the driver upon detecting signs of fatigue or closed eyes.
- Ensured low-power operation and lightweight design suitable for prolonged driver use.

Certifications & Training

- VLSI Design and Verification (Training) – Technical Hub
- Semiconductor 101 – Cadence
- Digital IC Design Fundamentals - Cadence
- Verilog - Cadence
- System Verilog – Cadence
- Digital Hardware Engineering using FPGA - Aditya Learning Academy
- Advanced CPP – Spoken tutorial (Online)
- PCB Design – APSSDC (Offline)
- HTML, CSS by IT Specialist – Pearson

Soft Skills

- Team player with good communication
- Willing to learn and adapt to new technologies
- Detail-oriented and self-driven

Achievements & Extracurricular Activities

- Participated in Project Space organized by Technical Hub, Surampalem
- Member of NSS club

Declaration

I hereby declare that the information furnished above is true to the best of my knowledge and belief.



Date: 21/07/2025



Signature: B.Sai Harini