SAKTHIVEL K

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Executive Summary

Proactive and adaptable engineering student with a diverse skill set spanning hardware design, web development (frontend), and problem-solving. Adept at learning new technologies quickly and applying innovative thinking to complex challenges. Excels in communication, leadership, and teamwork, with a proven ability to work both independently and collaboratively. Committed to driving impactful results and contributing to innovative and meaningful projects.

Objective

To leverage my technical skills, hands-on experience, and passion for engineering to contribute effectively to innovative projects in the field of hardware and software design and verification.

Education

Prince Shri Venkateshwara Padmavathy Engineering College — Ponmar, Chennai, Tamil Nadu, India
Bachelor of Engineering in Electronics and Communication Engineering
Expected Graduation: May, 2026

- Relevant Coursework: Digital Electronics, Electronic circuits, Linear Integrated Circuits, Digital Signal Processing, Hardware Verification, Embedded Systems , Programming Languages (C/C++, Python, RTL Design and Verification methodologies using System Verilog)
- CGPA: 8.9

Indian Institute of Technology, Madras — Guindy, Chennai, Tamil Nadu, India
Bachelor of Science in Electronic Systems
Expected Graduation: May, 2028

- Relevant Coursework: Digital Electronics, Electronic systems thinking and circuits, Electric and Electronic Circuits, Programming Languages (C, Embedded C, System Commands in Linux OS)
- CGPA: 7.74 in foundational level

Shri Jawantharaj Tejraj Surana Jain Vidyalaya, CBSE — Sowcarpet, Chennai, Tamil Nadu, India
AISSCE CBSE
Completed during 2021-2022

- Percentage: 80%

Shri Jawantharaj Tejraj Surana Jain Vidyalaya, CBSE — Sowcarpet, Chennai, Tamil Nadu, India
AISSE CBSE
Completed during 2019-2020

- Percentage: 80%

Technical Skills

- **Hardware Description Languages:** System Verilog, Verilog
- **Verification Tools:** Cadence Incisive/SimVision
- **Programming Languages:** Python, C/C++, Shell Scripting, Java, HTML, CSS
- **Operating Systems:** Linux, Windows
- **Debugging and Analysis:** Waveform Analysis, Assertion-Based Verification, Coverage Analysis
- **Other Tools:** MATLAB, Logic Analyzers
- **Data Structures and Algorithms**

Projects

Shakti Processor ALU Design

Hardware Verification of ALU using System Verilog

- Designed and implemented a System Verilog-based constraint verification environment.
- Created functional and code coverage metrics to ensure the design met the required specifications.
- Debugged and resolved simulation mismatches.

Development of T Flip-Flop Using SystemVerilog

- Designed and implemented a T Flip-Flop module using SystemVerilog.
- Developed a comprehensive testbench to verify the functionality of the design.
- Ensured compliance with timing constraints and optimized resource utilization.

Miscellaneous Projects

- Developed a HTML login page using HTML and CSS.
- Designed and constructed prototypes using Arduino during 1st and 2nd years in college.
- Developed and constructed a smart solar tracking project under IITM's LEAP team.

Experience

VLSI Internship Programme
Tessolve Semiconductor Pvt. Ltd, Bangalore, Karnataka, India
Hardware Verification Intern (July, 2024 – November, 2024)

- Developed testbenches and simulation environments for hardware IP verification.
- Performed regression testing and analyzed results to ensure adherence to specifications.
- Collaborated with design engineers to identify and resolve critical issues in the verification phase.

Achievements and Certifications

- **Java for Beginners:** Certified completion of foundational Java programming.
- **HTML and CSS:** Gained expertise in web development basics.
- **The Beginner's Guide to Bash Scripting and Automation:** Learned scripting and automation techniques.
- **Introduction to AI:** Completed foundational course on Artificial Intelligence principles.
- Qualified for the prefinals in the **AI Odyssey 1.0** event.
- **NPTEL Certifications:**
    - Design Thinking: A Primer (Achieved 82%)
    - Introduction to Research (Achieved 69%)

Skills

- Communication Skills
- Quick Learner
- Good Leadership
- Problem Analyzer
- Adaptability to New Tools and Technologies
- Collaboration in Cross-Functional Teams

Languages Known

- English
- Tamil
- Telugu
- Hindi