Shavil Singh

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EDUCATION

California State University, Sacramento | B.S. Computer Engineering

- **GPA:** 3.5
- **Awards & Honors:** Sacramento State Dean's Honor List Fall 2019, Spring 2020, Spring 2021, Fall 2021, Spring 2022, Fall 2022, Spring 2023.
- **Tau Beta Pi:** Exclusive organization limited to top 12.5% of engineering students.
- **Course work:** Object Oriented Programming, Systems Programing, Discrete Math, Data Structures and Algorithm Development, Physics Electricity and Magnetism, Differential Equations, Circuit Analysis, Embedded System Design (PLC), CMOS and Digital VLSI Design, Operating System Pragmatics, Software Engineering, Computer Networks, Signals and Systems

SKILLS

Hardware

- STM32, PIC24F, Analog Discovery 2, Nvidia Jetson Nano, VLSI, UART, GPIO, I2C, SPI, PWM, PCB Design

Programming Languages

- Java, C, C++, Assembly, Verilog, Python, VHDL, HTML, CSS, MATLAB

Software

- Visual Studio Code, Eclipse, Quartus Prime, Microsoft Office, Linux, Windows, Bitbucket, Multisim, STM32CubeIDE, MPLABX, Logisim, PSPICE, Keil, Vivado, Bash, Ubuntu, WSL, Anaconda, Cadence, WinSCP, Microsoft Project, TensorRT, OpenCV, Pytorch, CUDA, cuDNN, Git, GitHub, Jira

PROJECTS

Vehicle Crash Detection Project *Sponsored by California Department of Transportation* ***Oct 2023 – May 2024***

- Detect vehicle collisions and classify them utilizing Yolo object detection on Nvidia Jetson Nano
- Modified to send a notification when an accident has occurred based the time on screen

Operating System Construction ***Jan 2024 – May 2024***

- Made basic input/output, interrupts, handle multiple processes and system calls
- Programmed in C, in a Virtual Machine, debugged through GDB

CMOS Logic Gates Design ***Sep 2023 – Nov 2023***

- Constructed logic gates given W/L for NMOS and PMOS transistors, built in Cadence Virtuoso

Messaging Server ***Oct 2023 – Nov 2023***

- Client to Server system where up to 10 users can join and message each other
- Communication uses TCP protocol

CPU Design ***Jan 2023 – May 2023***

- CPU able to decode instructions, store values in registers, calculate math equations on ALU, jump, loop, and more

Heating and Cooling System ***Jan 2022 – May 2022***

- Built a heating and cooling system using STM32, Raspberry Pi, and a breadboard
- Utilized UART to send temperature data to Raspberry Pi and output it to a screen

Movie Database ***Mar 2019 – May 2019***

- User can add movies to a database and search via title, year, runtime, and actors

WORK EXPERIENCE

TARGET, Folsom, CA

Target Sales Floor Team Member ***Mar 2018 - Sept 2020***

- Experience with working closely with a team