Lidya Langana

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Education

BS Computer Engineering Sep 2022 - Dec 2026
Brigham Young University - Idaho Rexburg, Idaho

- GPA:3.91
- Tau Beta Pi Engineering Honor Society Fall 2024
- Coursework: Embedded systems, Computer Architecture, Circuit Analysis I & II, Object-Oriented Programming, Microprocessor System Design, Electronic Circuit Fabrication Lab, Digital Systems

Projects

- Built and integrated a 4-bit microprocessor with program counter, dual ROMs, MUX, 3-port register file, ALU, and ASCII display
- Programmed real-time embedded system on STM32 using ADC, PWM, and interrupt handling in C to control fan based on temperature emphasizing low-level hardware-software integration
- Collaborated with a team to develop embedded C firmware for stepper motor control, G-code parsing, and FreeRTOS scheduling, testing hardware to engrave images on wood
- Designed and fabricated a 5V DC power supply with current limiting; created schematics, PCB layout, and validated output with lab tools
- Designed and troubleshot three PCBs for a stereo amplifier, handling layout, debugging, and testing with oscilloscopes and multimeters
- Built a basic Space Invaders-style game in Python to sharpen programming and debugging skills
- Created a console-based task manager in C++ using OOP and STL for dynamic task handling

Technical Skills

- Programming Languages: Python, C, ARM assembly, X86 assembly, VHDL(Verilog)
- Software Tools: VS Code, STM32CubeIDE, Eclipse, Arduino IDE, Logisim, LTspice, Altium, GitHub
- Hardware & Lab Tools: Soldering, Oscilloscope, Function Generator, Multimeter, Logic Analyzer

Experience

Lab Assistant for Electronic Circuit Mar 2025 - Present
Brigham Young University Idaho

- Guided 30 students in circuit design and simulation using Altium Designer
- Assisted with PCB assembly, soldering, and testing, leveraging oscilloscopes and a function generator
- Reviewed lab reports and provided feedback to improve technical accuracy and creativity

Teaching Assistant for Computer System Sep 2024 - Present
Brigham Young University Idaho

- Guided 40 students with hands-on Arduino Uno projects and troubleshooting hardware connections
- Graded assignments and hosted weekly homework help sessions for personalized support

Math Tutor and Lab Supervisor Jan 2023 - Present
BYU-Idaho Math Study Center

- Tutored 12+ students weekly in calculus, pre-calculus, linear algebra, and basic algebra
- Managed drop-in lab, ensuring a 3:1 student-tutor ratio
- Monitored 7 tutors during shifts, regularly evaluated performance, and provided constructive feedback for improvement

Leadership

- Project Manager BYU–Idaho Hackathon, Fall 2024
- Vice President – Society of Women Engineers, BYU–Idaho