Ethan Mankins

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EDUCATION

CalPoly, San Luis Obispo, CA Fall 2020 - Present

Bachelors of Science in Computer Engineering

- 3.64 GPA
- Relevant Courses Completed: Technical Writing and Communication for Engineers, Data Structures, Electric Circuit Analysis and Manufacturing 1, 2, and 3, Object-Oriented Programming and Design, Digital Design, Computer Design Architecture and Assembly Programming, Algorithms, Systems Programming, Systems and Signals (analog and digital), Semiconductors and Electronics 1 and 2, Computer Networks, Microcontrollers and Embedded Applications

SKILLS

- Experience with Platforms: Vivado, RaspberryPi, Arduino, Basys boards, Solidworks CAD
- Proficient with Languages: C, Unix/Linux, Python, Java, Verilog, Assembly
- Interpersonal and leadership skills
- Proficient in math, science, and problem-solving

EXPERIENCE

Electronics Engineer Intern - Cepheid, Sunnyvale, CA Summer 2023

- Designed test fixtures and procedures to characterize electronic components and devices
- Automated test fixtures using Python and SCPI
- Created new documentation and improved old documentation for setup and operating procedures

Warehouse Assistant - Vestis Systems, Spokane, WA Summer 2022

- Assisted in product design, development, creation, and deployment from customer to finished product

Warehouse Manager - Boone Electric, Spokane, WA July 2021 - September 2021

- Oversaw warehouse workers and equipment pickup
- Received, inventoried, and organized thousands of units

Volunteer Leader - Valley Assembly of God, Spokane Valley, WA January 2017- September 2021

- Operated the technical department for the children's ministry
- Camp counselor for the Union Gospel Mission camp for underprivileged and at-risk kids

AWARDS

- Calpoly President's and Dean's List
- Spokane Science Scholar for University High School
- Honors Gold Medal of Achievement
- Advanced Placement Student Scholar

Projects

RISC-V Architecture

- Used Xilinx Vivado to create a working RISC-V architecture to implement 40 assembly commands
- Gained an in-depth understanding of the inner workings of a computer's architecture, and how different components interact
- Learned how to program in Verilog and Assembly effectively, and how memory is managed in a computer

Rube Goldberg Machine

- Integrated a capacitive touch piano, RLC strobe light, light detector, and metal detector to work together in a chain of events
- Gained a better understanding of applying 1st and 2nd order circuit theory to physical circuits
- Gained experience with integrating separate devices and circuits

Robotic Gingerbread House

- Used Arduino and other components to build a robotic gingerbread house to wave to people passing by, all the while being delicious
- Gained experience with coding in C/C++ in Arduino, ultrasonic sensors, motor drives, and motors
- Gained a better understanding of structural and mechanical components and how electrical devices affect them

Interactive Survival Simulation

- Modified and expanded code for an entity population survival simulation
- Gained experience with object-oriented principles, path-finding algorithms, understanding others' code, and learned how to make my code easier for others to understand

Calcudoku Solver

- Made a program to solve any size Calcudoku Puzzle
- Learned how to create and utilize many types of functional data structures, and gained experience in choosing and creating effective data structures given a desired task

Autonomous Robot

- Constructed and autonomous wheeled rover that could avoid obstacles and play sounds
- Gained experience with motor drive circuits, ultrasonic sensors, coding in Python with RaspberryPi, and C/C++ with Arduino