Yiju Li

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As a dual-degree student at the University of California, San Diego, pursuing Computer Engineering and Applied Mathematics, I bring a thorough understanding of both software and hardware development to the table. My passion for hardware has driven me to constantly seek opportunities to improve my skills in this field. My strong foundation in mathematical modeling and problem-solving, acquired through my studies in Applied Mathematics, makes me a valuable asset in hardware engineering.
I approach every task with a professional demeanor and am dedicated to delivering outstanding work. My hands-on experience as a software engineer intern at Shengmu Life and UBTech has honed my technical skills and ability to work in a team. Additionally, my experience as a QA engineer intern at CloudGame has enhanced my attention to detail and problem-solving skills. I am enthusiastic about the opportunity to apply my skills and continue to grow as a hardware engineer in a new role.

Education

Bachelor of Science in Computer Engineering
Bachelor of Science in Applied Mathematics
University of California, San Diego
Sep 2020 - current

Technical Skills

The skills listed below have been thoroughly understood and consistently applied in my professional experiences and personal projects.

Hardware Related

- Computer Engineer: Digital Electronics and Circuit, Computer Architecture Design(ISA)
- HDL: SystemVerilog, VHDL
- EDA tools: Modelsim(Questa), Quartus

Software Related

- Programming languages: Java, Python, C++(GLSL), C, JavaScript, HTML(WXML), CSS
- Focused Topics: Advanced Data Structures and Algorithms, Reinforcement Algorithms, Neural Network, CV, Kernel Programming, Computer Graphics
- Proficient Technologies: MySQL, MongoDB, React.js, Spring, Django, Express.js, Amazon Web Services (AWS), Alibaba Cloud, Linux, Git, DevOps
- Agile methodologies: Scrum, Kanban

Hardware Engineering Project

For a comprehensive understanding of my professional endeavors, I invite you to visit my website at YijuLi.info, where more projects are available for review.

MIPS-inspired Microcontroller Design

- Implemented a MIPS-inspired Instruction Set Architecture (ISA) featuring 9-bit instruction length and 16 registers.
- Created a highly efficient and effective assembler program to translate human-readable assembly code into machine code in accordance with the ISA specification.
- Developed the necessary control unit, ALU, and memory components for the ISA using SystemVerilog.
- Conducted thorough testing and verification of the microcontroller design using a custom-designed testbench and Synthesized the SystemVerilog code in Quartus to demonstrate its functionality on hardware.

Circuit Optimizer

- This is a project focused on optimizing Boolean functions for digital circuit design.
- The project involved taking as input a two-level description of a Boolean function and using a range of algorithms and heuristics to simplify and minimize the function.

DSP System Design with VHDL

- Implemented a hardware design of the DSP system, utilizing the VHDL hardware description language.
- Designed and developed the required digital components, such as filters and signal processing blocks, to meet the specific requirements of the system.
- Verified the functionality and performance of the hardware implementation through simulation and testing, ensuring the correct operation of the DSP system.

Professional Experience

- Software Engineer Intern in Shengmu Life, 2022 Summer, 10 weeks.
- Software Engineer Intern in UBTech, 2021 Summer, 8 weeks.
- Quality Assurance (QA) Engineer Intern in CloudGame, 2020 Summer, 10 weeks.