Yiju Li

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As a student at the University of California, San Diego pursuing a dual degree in Computer Engineering and Applied Mathematics, I have a comprehensive understanding of both software and hardware development. I have a strong interest in hardware and am always looking for opportunities to explore and enhance my skills in this field. My background in Applied Mathematics has provided me with a solid foundation in mathematical modeling and problem solving, which I believe will be valuable assets in hardware engineering. I approach every task with a professional attitude and a commitment to delivering high-quality work. I am eager to bring my skills and knowledge to a new role and continue to grow as a hardware engineer.

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 further insight into my projects, please refer to my website by accessing the YijuLi.info.

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

Shengmu Life, 2022 Summer, 10 weeks Developped WeChat apps using WXHL and JavaScript, and collaborated on dynamic Android apps using Java and Android SDK.

Software Engineer Intern

UBTech, 2021 Summer, 8 weeks Developed a web-application using JavaScript and React to improve functionality and user experience, modified components for accessibility and simplified the programming process for easier use by individuals of all ages.

Quality Assurance (QA) Engineer Intern

CloudGame, 2020 Summer, 10 weeks Designed and executed test plans, identified and resolved software bugs, and performed pressure tests to ensure a seamless and stable user experience for the product.