

Aiden Petersen

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WORK EXPERIENCE

Iowa State University

Aug. 2022 – Present

Computer Architecture Teaching Assistant

Ames, IA

- Worked with groups of students to enhance their understanding of computer architecture and assisted them in designing a MIPS CPU.
- Assisted in grading class assignments and labs.

Bio::Neos

May 2022 – Aug. 2022

Software Engineering Intern

Coralville, IA

- Simulated DNA next-generation single and pair-end sequencing using BioPython.
- Utilized tools like Docker and AWS to create consistent development environments that were easy to deploy.
- Contributed the majority of the code to a release of a telehealth platform.

Iowa State University

May 2021 – May 2022

Software Engineer

Ames, IA

- Developed additions to the Laravel framework to be used internally.
- Worked in a team of five people to create a web application to host photography competitions.
- Created a 3D Snake game using Three.js and Vue.

PROJECTS

MIPS CPU

- Designed, created, and simulated three MIPS processors using VHDL and Modelsim.
- Implemented performance-enhancing features such as pipelining and data forwarding.
- Analyzed performance differences between each processor by analyzing the maximum latency path and average CPI.

Cryptographic Coprocessor

- Designed and created a coprocessor intended for cryptographic applications in Verilog.
- Implemented the AES and SHA2 algorithms from the proposed RISC-V cryptographic extension.
- Utilized the AXI4 Lite bus to read and write to the coprocessor.
- Automated building and simulation of the coprocessor using Make.

EDUCATION

Iowa State University

Aug 2020 - Dec. 2023

Bachelor of Science, Computer Engineering, Applied Mathematics

Ames, IA

- Overall GPA: 3.95/4.00, CprE Major GPA: 4.00/4.00
- Honors: Top 2% of Engineering Juniors, Dean's List, IEEE HKN
- Swim Club President

SKILLS

Programming Languages: Verilog, VHDL, C/C++, Bash, Python, Haskell, MIPS Assembly, RISC-V Assembly, Java

Tools/Platforms: Git, Linux, Modelsim, Icarus Verilog, Make, Quartus Prime

Generic Skills: Computer Architecture, Digital Design, Embedded Systems, Oscilloscopes