Katie Wolf

319-329-0508 | ktjw16@gmail.com | linkedin.com/in/katiejwolf

Education

Iowa State University Ames, IA
B.S. in Computer Engineering Expected Dec 2024
- Minors in Cybersecurity, Mathematics, and Chinese Studies
- Cumulative GPA: 3.97/4.00

Experience

Iowa State University Ames, IA
Undergraduate Teaching Assistant Aug 2023 – Present
- Facilitate weekly lab sessions and office hours for Computer Organization class with over 100 students
- Demonstrate best coding practices in VHDL to design and implement digital components and datapaths
- Evaluate students' hardware design submissions and analyze simulated waveforms in ModelSim for correctness

Oracle Corporation Santa Clara, CA
Software Engineer Intern May 2023 – Aug 2023
- Developed Python scripts to achieve full codebase coverage for static code analysis on two product platforms
- Designed utility scripts for parsing and analyzing output reports, resulting in a 95% reduction in processing time
- Integrated automation scripts into the nightly build process, streamlining workflows for over 150 engineers

Collins Aerospace Cedar Rapids, IA
Software Engineer Co-op May 2022 – Dec 2022
- Developed and executed software verification tests on flight deck display systems for commercial Boeing aircraft
- Analyzed and updated application code and test procedures to ensure compliance with customer requirements
- Conducted over 50 peer reviews to assess safety-critical software in accordance with DO-178B standards

Collins Aerospace Cedar Rapids, IA
Software Engineer Intern May 2021 – Aug 2021
- Integrated Coverity code analysis tool into the Avionics Platform Software department's development workflow
- Implemented a CI/CD Bamboo pipeline to streamline the code analysis process, utilizing Docker containers
- Developed and documented thorough instructions and best practices for the different tools

Projects

Synthesized VHDL-Based MIPS Processor
- Designed and built a single-cycle and 5-stage pipelined MIPS processor in VHDL, with 32-instruction execution
- Implemented hazard detection mechanisms in the pipelined processor, attaining a clock frequency of 49 MHz

Microcontroller-Powered Mars Rover Control
- Developed a navigation system in C to successfully move a robot through an obstacle course without visual input
- Integrated ultrasonic and IR sensors on the robot for data collection, utilizing GPIOs and UART communication

Social Media and Music Sharing Android App
- Developed a Spring Boot backend for a music-sharing social media application with SQL database integration
- Created REST APIs for data access and implemented real-time direct messaging using WebSockets

Skills

Programming: C, Java, Python, VHDL, Verilog, HTML, CSS, JavaScript, SQL, MATLAB, MIPS Assembly
Software: Linux, Git, Subversion, ModelSim, Vivado, Spring Boot, MySQL, Jira, DOORS, Adobe Creative Cloud

Activities

Iowa State University Student Advisory Board, Member 2021 – Present
Iowa State University Hackathon Club, Executive Board Member 2021 – Present
Iowa State University Digital Women Club, Member 2021 – Present
Iowa State University Honors Program, Member 2020 – Present
Iowa State University Undergraduate Research Program, Ambassador 2021 – 2022