ELEIAH HENGEVELD

+1 (778) 866-8440 ◇ Vancouver, BC

EleiahHengeveld@gmail.com ◇ linkedin.com/in/eleiah

EDUCATION

Bachelor of Applied Science, Computer Engineering   2018 - 2022
University of British Columbia

SKILLS

Programming Languages	Verilog, Python, C/C++, Java, JavaScript, SQL
Tools & Frameworks	Cadence (Innovus, Virtuoso), Quartus, ModelSim, MATLAB, Git, Selenium, Jira
Hardware Platforms	DE1-SoC FPGA, Raspberry Pi, Arduino

EXPERIENCE

QA Analyst   May 2019 - Dec 2019
PNI Digital Media   *Vancouver, BC*

- Automated website cache warm-up with a multi-threaded Python script, removing hours of manual warm up.

- Organized and led quality assurance analysis meetings, identifying functionality gaps and undefined behavior.

- Prepared and presented new features to company leadership and lead Q&A presentations to branch office.

PROJECTS

5x5 Go Board IC Design   Sept 2021 - Dec 2021

- Designed a 5x5 Go game in Verilog with automated move validation and piece removal.

- Synthesized RTL design using a 45nm standard cell library and implemented physical layout in Cadence Innovus.

- Verified functionality and correctness through simulation in ModelSim and Cadence tools.

BattleShip on FPGA   Jan 2021 - Apr 2021

- AI algorithm in hardware to find optimal coordinates to shoot for a game of battleship.

- Parallelized opponent AI computations, achieving a 5x speedup by calculating probabilities for all ships simultaneously.

- Created a comprehensive test bench suite to ensure functionality and detect undefined behavior.

Reduced Instruction Set Computer   Oct 2018 - Dec 2018

- Implemented a RISC processor in Verilog capable of executing a subset of ARM Assembly instructions.

- Applied test-driven development and modular testing in ModelSim, ensuring a bug-free design.

- Optimized CPU by parallelizing the state machine and adding data passthroughs, achieving top 5% performance.

Arduino Video Game   Feb 2018 - Apr 2018

- Developed and designed a 3x3 Zelda dungeon on Arduino which included a variety of enemies and weapons.

- Built and designed game engine, enemy pathing AI, and LCD pixel art in C++ to run on Arduino Due.

- Created custom data types to abstract and modularize data, leading to readable, reusable code.