DONOVAN CLAY

Software Engineer

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WORK EXPERIENCE

Amazon (AWS SageMaker, Seattle) Software Development Intern Jun. 2024 - Sep. 2024

Setup CI/CD infrastructure to automate the test and release process of the SageMaker CodeEditor app.

- Used AWS Cloud Development Kit to write "infrastructure as code"
- Automated release through Conda Forge; eliminates 2-3 weeks of work per release of a new version
- Automation triggers tests running on AWS for every contribution to the open source repository

Univ. of Washington, Paul G. Allen School of CSE Machine Learning Teaching Assistant Sept. 2024 - Dec. 2024

I assisted in teaching the graduate and undergrad **Machine Learning** class with around 230 students.

- Contributed to creating and grading the biweekly homework assignments
- Coordinated with 8 other TAs as the only undergraduate TA in the staff
- Hosted support hours 5 hours a week to help students understand concepts from class and debug their projects

Univ. of Washington, Paul G. Allen School of CSE Digital Design Teaching Assistant Jan. 2024 - Mar. 2024

I assisted in teaching a Digital Circuit Design class of 43 students.

- Hosted support hours 5 hours a week to help students understand concepts from class and debug their projects
- Coordinated with a teaching staff of 5 other people to grade weekly assignments

RESEARCH EXPERIENCE

UW ACME Lab HLS4ML Team Jan. 2024 - Current

Team is developing software to convert from neural network code, written in Python, to SystemVerilog, which implements the ML models in hardware on FPGAs.

- Developed benchmarks to test handmade SystemVerilog models against the SystemVerilog model generated by the HLS4ML tool
- Coordinated with a team from Drexel University to collaborate on a system to monitor material deposition
- Investigated errors in the HLS4ML implementation of the Keras BatchNormalization layer

PROJECTS

Indoor Air Quality Controller https://github.com/donovanclay/isy Jul. 2022 - Sep. 2023

This controller manages the supply and exhaust fans in a house to keep stable air pressure and humidity.

- Communicated with APIs to poll local weather, air quality, and the house's security system
- Used sensors to detect airflow, humidity, motion, and occupancy and control fans based on that data
- Used Python sockets to implement a Websocket to send live updates about the state of the application
- Used React and NextJS to develop and Docker to deploy a local website to show real time diagnostic data
- Used Python to implement logic to equalize exhaust airflow with supply airflow

illustrAItor Finalist in UW Hackathon 2022 https://github.com/donovanclay/illustrAItor Oct. 2022

This project makes reading more enjoyable by complementing it with customizable AI-generated illustrations. illustrAItor creates captivating illustrations to complement the passage of text being read.
APIs used: Stability AI Image Generation, Google Books.

- Produced the project in 24 hours in a highly competitive environment
- Worked in a small group of 4 for long hours
- Used multiple API's to pull and serve information to and from different services

EDUCATION

B.S. Computer Engineering with Honors University of Washington Sep. 2022 - Jun. 2025
Paul G. Allen School of Computer Science and Engineering 3.92 Major GPA

B.A. Comparative History of Ideas University of Washington Sep. 2022 - Jun. 2025
Interdisciplanary degree in social sciences, philosophy, communications, sociology, and more 3.92 Major GPA

Computer Engineering Prerequisites Bellevue College Sep. 2020 - Jun. 2022
Transfered to University of Washington 3.93 GPA

SKILLS

Python - Java - C/C++ - Rust - AWS - SystemVerilog - FPGAs - PyTorch - TensorFlow - GitHub Actions - Docker