Raiden van Bronkhorst

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EXPERIENCE

Great Puzzle Hunt

Web Developer   May 2019–present

- Redesigned the website for the Great Puzzle Hunt for better user interaction and accessibility, and helped streamline the registration process.
- Wrote HTML, JavaScript, and CSS code using ReactJS and Meteor.
- Worked across time zones with other development team members.

PROJECTS

Portfolio Website   May 2019–Present

- Created an original design for my website to display my various projects and work.
- Used Google Firebase for development and website deployment.
- Wrote code in HTML, CSS, and JavaScript.

Microshell   April 2020–June 2020

- Wrote a bash-like shell in the C programming language for the Computer Systems II course.
- Implemented argument parsing, command expansion, builtin commands, and pipelines.

Rock Generator   January 2017–October 2018

- Generated and rendered rocks in 3D with software rendering, multiple colored light sources, supersampling, and mouse interaction.
- Indepedently learned math and computer graphics concepts required, including value noise, triangle rasterization, Z-buffering, backface culling, and quaternions.

RESEARCH

Semantic Pixels   September 2020–Present

- Worked with professor Scott Wehrwein and other students to develop a deep learning model capable of learning a richer notion of pixel similarity than traditional RGB euclidean distance.
- Interfaced with an implementation of the Panoptic-Deeplab panoptic segmentation model from Facebook Research.
- Wrote code in Python using Numpy, OpenCV, and PyTorch.

MotifAnalyzer-PDZ   September 2017–October 2019

- Worked with professors Filip Jagodzinski and Jeanine Amacher to create a command-line program to process and compare sequences of amino acids in FASTA files.
- Wrote code in Python to collect data from FASTA files and calculate enrichments for specific amino acids in a PDZ-binding motif-satisfying sequence.
- Published our work in *Protein Science*.

SKILLS

- Problem Solving
- Teamwork
- Vim
- Linux
- Headless environments
- Git
- Numpy
- PyTorch
- OpenCV
- WebGL

LANGUAGES

- Java
- C
- Python
- Julia
- JavaScript
- SQL
- HTML
- CSS
- LaTeX

EDUCATION

Western Washington University

B.S. in Computer Science

Minor in Mathematics

Expected June 2021

Bellingham, WA

3.81 GPA

RELEVANT COURSES

Algorithms, Data Structures, Computer Systems, Database Systems, Object Oriented Design, Functional Programming, Computer Vision, Computer Graphics, Bioinformatics, Deep Learning, Multivariable Calculus, Linear Algebra, Limits & Infinite Series, Statistics