William Wang

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Education

Cornell University June 2020 - May 2024

Bachelor's in Computer Science and Physics

Dean's List

Honors Data Structures and OOP

Functional Programming

Computer Vision

Compilers

Systems ProgrammingComputer Architecture

C++ ProgrammingDiscrete Structures

Machine Learning

Skills

Languages: Python, Kotlin, Java, C, C++, OCaml, Fortran, Assembly, Javascript, HTML, CSS, Swift

Tools: PyTorch, NumPy, OpenCV, SciPy, MATLAB, Linux/Unix, Firebase, LATEX, CAD, Microsoft Office, Inkscape, Git

Experience

Banking and Spend Team

May 2022 - Aug 2022 San Francisco, CA

Square/Block - Software Engineer Intern

• Incoming Software Engineer Intern for Kotlin development at Square.

Simulating Shear Mechanics of Biological Tissues

Feb 2021 - present

Ithaca, NY

Cornell University - Undergraduate Researcher

- Developed a modular protocol and computational models for simulating biological tissues in Python
- Researched and implemented fast optimization algorithms to efficiently solve energy minimization landscapes (optimizing up to 10,000 parameters)
- Presented research to cross-disciplinary audiences at Cornell University and Rochester Institute of Technology

Inertial Confinement Fusion Simulation

Jun 2019 - present

Laboratory for Laser Energetics - Research Assistant

Rochester, NY

- Developed Fortran simulations to simulate and optimize new case geometries (hohlraums) for lase-driven nuclear fusion.
- Designed a novel hohlraum geometry that achieves higher levels of uniformity than current designs, less than 1% nonuniformity.
- Presenter at the 62nd Annual Meetings of the APS Division of Plasma Physics (Session GO09).
- · Published Wang et Craxton, 2020, The Physics of Plasmas

Teaching Assistant

Aug 2021 - Dec 2021

Ithaca, NY

Cornell University CIS Course Staff

- CS 2112: Honors Object Oriented Programming and Data Structures
- CS 3410: Computer System Organization and Programming
- Lead and facilitate lab and discussion sessions, hold weekly office hours, design and grade homework assignments.

Projects

Steer Calendar | Swift, Firebase, SQLite

Launched an iOS app that fetches calendar information from user-saved teacher webpages, parses the iCalendar data, and displays the course content on students' devices.

Snake Gamebot | Python, Tensorflow

Wrote and trained (supervised learning) neural networks to play "Snake" using data collected and analyzed from previous player attempts, achieving performance similar to or better than.

Chess/Ultimate Tic-Tac-Toe | Kotlin

Over the period of two days, created both a custom chess engine and ultimate tic-tac-toe engine featuring an AI that performs alpha-beta pruning algorithms and a Monte-Carlo Search Tree that evaluates 30,000 entire games per second.

Simulating Evolving Artificial Life | Java, JavaFX

Created a system to simulate multiple critters, each defined by a unique program written in a custom context-free grammar, "critter-lang." Developed a recursive-descent parser, abstract syntax tree interpreter, and a concurrent GUI.

Javalin Compiler (xic) | JFlex, Kotlin

Worked in a team of four to create an optimizing compiler that targets x86-64 assembly code for Xi, a procedural programming language.

Last Updated May 17, 2022