William Wang

williamywang.com | wyw6@cornell.edu | Ithaca, NY

Education

Cornell University Jun 2020 - May 2024
Bachelor's in Computer Science and Physics Dean's List

- Honors Data Struct. and OOP
- Systems Programming
- Computer Architecture
- Functional Programming
- C++ Programming
- Discrete Structures
- Compilers*
- Computer Vision*

*In progress

Skills

Languages: Python, Java, Kotlin, C, C++, OCaml, FORTRAN, Assembly, Javascript, HTML, CSS
Tools: Git, GitHub, R, MATLAB, Linux/Unix, Vim, Bash, Firebase, LaTeX, CAD, Microsoft Office, Inkscape

Experience

Laboratory for Laser Energetics Jun 2019 - present
Research Assistant Rochester, NY

- Conducted research in inertial confinement fusion and developed a Fortran code to simulate laser-driven capsule implosions in various case designs.
- Designed a novel hohlraum geometry that achieves higher levels of uniformity than current designs (less than 1% rms nonuniformity).
- Published a first author paper to *The Physics of Plasmas*.
- Presenter at the 62nd Annual Meetings of the APS Division of Plasma Physics (Session GO09).

Cohen Laboratory (Cornell University) Feb 2021 - present
Undergraduate Researcher Ithaca, NY

- Developed both 2D and 3D computational models in Python to study the mechanical properties of articular cartilage and the behavior of several lattice/network structures.
- Implemented optimization algorithms (conjugate gradient) to find the minimal energy state of networks.

Cornell University CIS Course Staff Jun 2021 - Present
Teaching Assistant Ithaca, NY

- CS 3410: Computer System Organization and Programming
- CS 2112: Object Oriented Programming and Data Structures (Honors)

Clinical Cardiovascular Research Center Jun 2016 - Jan 2019
Software Developer Rochester, NY

- Designed a Python program that parses and plots a patient's ECG data and in a clock-like graph.
- Created an online calculator in Javascript that assesses the absolute risk of life-threatening cardiac events in long QT syndrome patients.

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." Designed and developed an abstract syntax tree interpreter and a real-time GUI using JavaFX.

Javalin | Java, Kotlin
Designed and developed a compiler that generates optimized x86-64 assembly code for Xi, a procedural language.

Last Updated April 12, 2022