William Wang

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Education

Cornell University May 2024
Bachelor in Computer Science and Physics GPA: 4.12/4.3

- Honors Data Struct. and OOP
- Systems Programming
- Functional Programming
- C++ Programming
- Discrete Structures
- Mechanics, Special Relativity
- Electricity and Magnetism
- Comparative Physiology
- Multivariable Calculus
- Differential Equations
- Linear Algebra

Skills

Java · Python · FORTRAN · OCaml · C · C++ · Javascript · HTML · CSS · MATLAB · Swift · LaTeX

Experience

Laboratory for Laser Energetics Jun 2019 – present
Project Assistant Rochester, NY

- Conducted research in fusion energetics and developed a 3-D view-factor code in FORTRAN (and multi-threaded with OpenMP) to simulate (laser-driven) indirect-drive capsule implosions in various hohlraum designs.
- Designed a novel hohlraum design and published paper (first author) to *The Physics of Plasmas*.
- Presenter at the 62nd Annual Meetings of the APS Division of Plasma Physics (Session GO09).

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

- Developed both 2-D and 3-D computational models in Python to study mechanical properties of articular cartilage and several lattice structures.
- Implemented conjugate gradient algorithms to find minimized energy state of networks.
- Studied and currently writing paper on polarized cartilage networks.

Cornell University CIS Course Staff Aug 2021 — present
Consultant/Teaching-Assistant Ithaca, NY

- CS 2112: Honors Object Oriented Programming and Data Structures
- Facilitate lab session, hold weekly office hours, design and grade assignments.

Projects

Steer Calendar | Swift, Firebase, SQLite
Launched an iOS app that fetches calendar information from teacher webpages, parses the iCal data, and displays the course content on students' devices.

Clarkanoid | OCaml, SDL
Led a team of three to create an RPG game with a custom Entity-Component-System, physics engine, enemy ai, six terrains, hundreds of hand-drawn pixel art sprites, and custom soundtracks.

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.

Critter World | Java, JavaFX
Created a graphical simulation consisting of multiple critters, each storing a unique program written in a context-free grammar, "critter-lang." Wrote a grammar parser and interpreter for critter-lang.