

# William Wang

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## Education

### Cornell University

Bachelor in Computer Science and Physics

May 2024

Dean's List

- 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++ · Assembly · Javascript · HTML · CSS · MATLAB · Swift ·  $\LaTeX$

## Experience

### Laboratory for Laser Energetics

Project Assistant

Jun 2019 – present

Rochester, NY

- Conducted research inertial confinement fusion and developed a 3-D view-factor code in FORTRAN (multi-threaded with OpenMP) to simulate laser-driven capsule implosions in various hohlraum designs.
- Designed a novel hohlraum design 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).

### Itai Cohen Laboratory (Cornell University)

Undergraduate Researcher

Feb 2021 – present

Ithaca, NY

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

### Cornell University CIS Course Staff

Consultant/Teaching-Assistant

Aug 2021 – present

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 iCalendar 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.