

# William Y. Wang

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## EDUCATION

### Cornell University | May 2024

College of Arts and Sciences  
Computer Science and Physics  
Dean's List

## COURSEWORK

Computer Systems Programming  
Functional Programming  
Honors OOP and Data Structures  
C++ Programming  
Discrete Structures  
Mechanics and 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 ·  $\text{\LaTeX}$

## PUBLICATIONS

W.Y. Wang and R. S. Craxton,  
"Pentagonal prism spherical  
hohlraums for OMEGA," **28**, 062703  
(2021)

## AWARDS

Schreiner STEM Scholarship  
Xerox Award for Innovation and  
Information Technology  
American Computer Science League  
1st Individual in New York  
Maureen O'Donnell Oxford Classical  
Dictionary Award

## WORK EXPERIENCE

### Laboratory for Laser Energetics

Project Assistant

Jun 2019 – present

Rochester, NY

- Conducted research in fusion energetics and developed a 3-D view-factor code in FORTRAN (and multi-threaded with OpenMP) to simulate indirect-drive target implosions in various hohlraum designs.
- Developed 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 G009).

### Cornell University CIS Course Staff

Consultant/Teaching-Assistant

August 2021 – present

Ithaca, NY

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

### 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 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.

### Clinical Cardiovascular Research Center

Software Developer

Jun 2016 - Jan 2019

Rochester, NY

- Developed "QTClock": a Python program that plots a patient's heart QT interval data (obtained from ECG recordings) and the patient's intake drug concentration in a clock-like graph.
- Also developed an online calculator that assesses the absolute risk of life-threatening cardiac events in patients with long QT syndrome.

## PROJECTS

### Steer Calendar | Swift, Firebase, SQLite

Developed an iOS app that fetches information from teacher webpages, parses iCal data, and displays 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, six terrains, hundreds of hand-drawn pixel art sprites, and custom soundtracks.

### Snake Gamebot | Python, Tensorflow

AI trained to play Snake using data collected from previous player data, achieving performance similar to or better than.

### Critter World | Java, JavaFX

Graphical simulation with multiple critters, each storing a unique program written in a context-free grammar, "critter-lang." Wrote a grammar parser and interpreter for critter-lang.