Vivian Ding

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EDUCATION

Cornell University *Ithaca, NY* | Expected 2024

Bachelor of Arts: Computer Science and Mathematics GPA: 3.846/4.3

Dean's List of the College of Arts & Sciences for Excellence in Scholarship

- Analysis of Algorithms
- Honors Object-Oriented Design & Data Structures
- Functional Programming
- Computer System Organization
- Introduction to Compilers
- C++ Programming
- Theory of Computing
- Honors Introduction to Analysis
- Numerical Analysis
- Computational Mathematics
- Discrete Mathematics
- Linear Algebra

PROJECTS

Xi Compiler 2022

- Implemented optimizing compiler for Xi, an imperative, procedural language, and Rho, an extension to Xi.
- Won "Best Compiler" award in class, according to correctness and performance of generated code.
- Written in Kotlin alongside three team members. Optimizations include copy and constant propagation, constant folding, register allocation, function inlining, and dead code elimination.

CritterWorld 2020

- Utilized Java, JUnit, and MVC design pattern to create a simulation of animals that traverse a world, reproduce, and evolve, alongside two team members.
- Built the graphical front-end that enables a user to view and control the world.
- Implemented an interpreter for the critter language, used to define animal behavior.

RELATED EXPERIENCE

IBM Accelerate Summer 2022 – Present

- Participating in virtual eight-week program on Client Engineering & Technical Sales track.
- Using IBM technology to create an intelligent chatbot to improve the way customers and companies interact.

Undergraduate Researcher Summer 2022 – Present

- Working with Andrew C. Myers through the Computer Science Undergraduate Research Program (CSURP) for Cornell's Applied Programming Languages research group.

Research Intern, Earthplace Harbor Watch Summer 2019

- Collected and processed samples, conducted profiling in local waterways to monitor health.

TEACHING EXPERIENCE

Teaching Assistant 2021 – 2022

CS 3110: Functional Programming & Data Structures (Spring 2022)
CS 2112: Honors Object-Oriented Design & Data Structures (Fall 2021)

- Planned and taught lab sections of up to 30 students, held office hours, graded projects and exams.

Math and Computer Science Tutor 2017 – Present

- Independently educating over 25 students grades 3-12 in math, science, and computer programming.
- Guiding students in building problem solving strategies; inspiring further pursuit of CS and mathematics.

Member, Connecticut College Corps Summer 2021

- Oversaw an enrichment program supporting over 120 students through Connecticut's new AccelerateCT initiative, mitigating school disengagement in the wake of the COVID-19 pandemic.

Instructor, codeConnects Summer 2021

- Taught introductory programming concepts and algorithmic thinking to individual students.

Teaching Assistant, AP Computer Science A 2019 – 2020

- Facilitated projects with debugging, code review.

ADDITIONAL EXPERIENCE

President, New Canaan High School Science Team 2018 – 2020

- Led meetings of 40+ students and initiated collaboration with a local middle school to spread intellectual curiosity and passion for science in the local community.
- Competed in the National Science Bowl Regional Competitions; mobilized two teams of 5 members each.

Manager, New Canaan Varsity Football 2018 – 2020

- Coordinated a team of over 120 members for daily practice and games; managed equipment and records.

SKILLS

- *Technologies:* Java, Kotlin, Python (NumPy, SciPy, pandas), C, C++, OCaml, Bash scripting
- *Tools:* Git, LaTeX

AWARDS

National Merit Finalist
National Honors Society, New Canaan Chapter
National AP Scholar
Bausch & Lomb Honorary Science Award
H. Norm Ricker Award in Mathematics
Pennyweights Award for the Outstanding Student in Science
Connecticut Seal of Biliteracy (French)