Vivian Ding

✉ vivianyyd@gmail.com
vivianyyd.github.io

Education

2024 – Present **PhD**, *Massachusetts Institute of Technology*.
In progress.

2020 – 2024 **BA**, *Cornell University*, Computer Science and Mathematics.
GPA 3.797/4.3 – Dean's List.
Relevant coursework: Program Synthesis, Advanced Programming Languages, Advanced Compilers, Cryptography, Kleene Algebra, Advanced Analysis of Algorithms, Machine Learning, Numerical Analysis

Workshop Publications

2023 **An Array Intermediate Language for Mixed Cryptography**, Presented at the *Workshop on Foundations of Computer Security*.

Industry Experience

May – Aug 2023 **Software Engineering Intern**, *Jane Street*.
- Added a new feature to the OCaml programming language: implicit source position parameters, useful for debugging and expressive error messages. This feature is used widely within Jane Street, and plans are in place to roll it upstream to the official OCaml compiler.
- Extended internal logic for ETF settlements to support new flows. This improvement has been deployed.

Teaching Experience

Aug 2021 – May 2024 **Teaching Assistant**, *Cornell University*.
- Prepared and delivered lectures, labs, recitations, assignments, and exams for hundreds of students; supported students in weekly office hours; graded hundreds of projects and exams.
- *Courses:* Compilers, Programming Languages, Honors OOP, Functional Programming

Sep 2017 – Present **Math and Computer Science Tutor**.
- Independently educating over 25 students grades 3-12 in math, science, and computer programming.

Jun – Aug 2021 **Instructor**, *Connecticut College Corps*.
- Oversaw an enrichment program supporting over 120 students through Connecticut's AccelerateCT initiative, mitigating school disengagement in the wake of the COVID-19 pandemic.

Projects

2022 **Xi Compiler**.
- Implemented an optimizing compiler targeting x86 for an imperative, procedural language called Xi.
- Won "Best Compiler" award for correctness and performance, with 18.4x speedup of generated code.
- Written in Kotlin alongside three team members.

Technical Skills

Java, Kotlin, OCaml, Python (NumPy, pandas), Julia, Linux, Bash, Git, LaTeX