

# William Gao

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## EDUCATION

### Stony Brook University

August 2020 - Dec 2023

*B.S. in Computer Science and Applied Mathematics, GPA: 3.98*

- Relevant coursework: Data Structures, System Fundamentals I/II, Analysis of Algorithms, Compiler Design, Computer Networks, Software Security, Fundamentals of Software Development, Web Security
- Extracurriculars: Member, Women in Computer Science; Member, Stony Brook Cybersecurity Club

### Brooklyn Technical High School

September 2016 - June 2020

*Software engineering major, GPA: 98.61%*

- Graduated with an NYC Advanced Regents Diploma

## PROJECTS

### NextWebsite

December 2022 - Present

*Author*

- Constructed a personal website using NextJS and deployed to Vercel
- Designed and developed an API that tracks users across web pages using Java Spring Boot and MySQL
- Created dashboard to view and analyze visitor behavior using VictoryJS

### Playlister

November 2022 - December 2022

*Author*

- Built a music playing web application using MySQL, Express, React, and Nodejs
- Migrated existing Javascript frontend to Typescript and MongoDB backend to MySQL
- Redesigned database schema and implemented flyweight design, significantly reducing space complexity
- Implemented authentication and authorization using JSON Web Tokens

### Evo

June 2022 - Present

*Co-Author*

- Collaborated with a peer in constructing a compiler intended to target x86 in Ocaml
- Designed a module and type checking system that allowed for function shadowing and overloading
- Increased code coverage by fifty points by designing and writing test cases verifying the AST

## WORK EXPERIENCE

### Stony Brook University Computer Science Department

Stony Brook, NY

*Teaching Assistant, Analysis of Algorithms*

February 2022 - May 2022

- Held regular in-person office hours to offer intuition behind homework questions and course content
- Administered and proctored the course midterm and final
- Acted as a channel of communication between students and course instructor

### JEI Learning Center

Brooklyn, NY

*Instructor*

July 2021 - August 2021

- Taught the SHSAT to seventh graders over six weeks and saw a 100% score increase
- Fostered a friendly classroom environment and encouraged a growth mindset
- Organized, assigned, and graded student material

## AWARDS

- Received AP Scholar with Distinction and National AP Scholar
- Awarded Dean's List for all semesters at Stony Brook

## TECHNICAL SKILLS

- Languages - Ocaml, Java, Typescript, Javascript, C, Node.js, Prolog, Python, HTML/CSS, Bash
- Frameworks/Libraries - ReactJS, ExpressJS, NextJS, Spring Boot, Socket.IO, Flex, Bison, JavaFX,
- Technologies - Visual Studio Code, Git, Emscripten, Dune, Make, Ubuntu, Gradle