Kyle Song

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Education

University of Michigan Ann Arbor, MI

Computer Science (BSE) — GPA: 3.77 *Aug. 2024 – May 2027 (Expected)*

Relevant Coursework: Web Systems, Computer Organization, Data Structures & Algorithms, Discrete Mathematics, CS Pragmatics, OOP in C++

Experience

Infrastructure and Technology Intern Jun. 2025 – Present

Kapitus *New York, NY*

- Contributed to business financing infrastructure by collaborating with SysAdmin, IAM, and Cloud Ops teams to streamline IT asset workflows and ensure regulatory compliance protocols
- Audited configurations for 300+ AWS S3 buckets to ensure security compliance, aligning with cloud best practices for protecting sensitive financial and client data
- Assisted in AWS cloud security audits by reviewing 500+ IAM user roles and 200+ S3 access policies
- Managed assets using Microsoft Intune and JIRA to accurately track 75+ devices marked for refurbishing or recycling

Computer Science Fellow Sep. 2022 – May 2024

The Peddie School *Hightstown, NJ*

- Mentored 20+ peers in mastering foundational programming concepts in introductory and AP CS courses, contributing to improved class performance and project outcomes
- Led weekly help sessions focused on debugging and problem-solving strategies, resulting in increased student engagement and reduced project error rates

Data Visualization and Analytics Intern Jun. 2023 – Jul. 2023

Visualization and Data Analytics Lab at New York University *New York, NY*

- Led the integration of Quarto into OpenSpace, an interactive data visualization platform funded by NASA, improving technical publishing workflows for space exploration content
- Developed 3+ interactive presentations using React and the OpenSpace API with Quarto, enhancing educational and research access to astronomical datasets
- Built visualization modules in Quarto using Python (matplotlib), ObservableJS, R, and RevealJS to support dynamic scientific storytelling and reproducible analytics

Projects

Java Autograder | *FastAPI, Docker, AWS S3, MySQL* Apr. 2025 – Present

- Developed an automated Java autograder for 50 AP Computer Science students, with infrastructure designed to scale to larger classroom deployments
- Designed RESTful APIs for handling submissions, grading, and feedback, reducing grading turnaround from days to under 2 minutes per student
- Implemented persistent storage using AWS S3 and MySQL to manage student submissions, grades, and records
- Currently integrating MOSS plagiarism detection to automate academic integrity checks and prepare for future deployment in a live classroom setting

SQL Engine | *C++* Mar. 2025 – Apr. 2025

- Built a custom SQL-like interpreter in C++ supporting commands such as CREATE, INSERT, DELETE, JOIN, and GENERATE, replicating core relational DBMS functions
- Engineered a table system using hash maps and BST-based indexing, improving query efficiency and enabling faster lookups on in-memory data
- Developed a modular command execution pipeline to support scalable cross-table operations and extensible database features

Technical Skills

Languages: C/C++, Java, Python, JavaScript, R
Frameworks and Libraries: FastAPI, React, Matplotlib, ObservableJS, Reveal.js
Developer Tools: Git, AWS, Docker, MySQL, VS Code, IntelliJ, Unix