

Kyle Song

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EDUCATION

University of Michigan

Ann Arbor, MI

Computer Science (BSE) — GPA: 3.77

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 – Aug. 2025

Kapitus

New York, NY

- Built AWS Lambda functions using the Serverless framework to scan CloudWatch Logs for sensitive data, including passwords, API keys, SSNs, and credit card numbers using custom regex patterns and CloudWatch Logs data protection policies, enabling real-time detection and alerts for security risks
- Assisted in AWS cloud security audits by reviewing 500+ IAM user roles and 200+ S3 access policies
- Optimized business financing infrastructure by collaborating with SysAdmin, IAM, and Cloud Ops teams, streamlining IT asset workflows and ensuring 100% adherence to regulatory compliance protocols.
- Managed assets using Microsoft Intune and JIRA to track 100+ 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 by 30%

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, boto3, Serverless, React, Matplotlib, ObservableJS, Reveal.js

Developer Tools: Git, AWS, AWS CLI, Docker, MySQL, VS Code, IntelliJ, Unix