Ryan Siu

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EDUCATION

UNIVERSITY OF MICHIGAN | BSE in Computer Science • Statistics Minor
September 2018 – May 2022 | Ann Arbor, MI

- **GPA:** 3.9 / 4.0
- **Coursework:** Data Structures and Algorithms • Machine Learning • Computer Security • Entrepreneurial Design: IoT • Foundations of CS • Computer Organization
- **Organizations:** Eta Kappa Nu (HKN) - Historian Officer • Michigan Hackers - Puzzles Core Lead

EXPERIENCE

AFFIRM | Software Engineering Intern
May 2020 – Present | Remote

- Improved the runtime of a loan aggregation tool that queried a Redshift database with 25.5 billion rows from 3 hours to 1 min. Processed data using PySpark instead of raw SQL and generated and utilized a 1 million row ETL containing preprocessed database data instead of querying the entire database.

TWO SIGMA | Software Engineering Intern
May 2019 – August 2019 | Houston, TX

- Developed a cash management platform capable of handling billions of dollars using a service-oriented architecture, allowing users to view and execute money market fund trades. Created web services in Java using the OpenAPI workflow and built a React UI to interface with the API.
- Implemented algorithms to allocate cash to various money market funds. Achieved 6-10x faster runtime compared to legacy algorithms by optimizing the number of service calls and persisting data. Incorporated validation checks throughout the algorithms to ensure that allocations were correct and reasonable.
- Communicated weekly with portfolio financiers on the business partner team to determine cash management platform webpage design and algorithm specifications

U-M INFORMATION & TECHNOLOGY SERVICES | Software Developer
February 2019 – Present | Ann Arbor, MI

- Developed a new object-oriented application in Python 3 to generate a 16 sheet financial summary spreadsheet for the U-M Office of Budget & Planning to project and determine student tuition. Wrote classes to encapsulate, format, and render precise financial formulas through the Google Sheets API. Passed in tuition data called from internal APIs to populate spreadsheets.
- Rebuilt a Java Spring Boot microservice that reads real-time recreation building capacity data from a Google Sheet and serves reformatted and manipulated data as a REST API. Migrated service to use Sheets API v4 from v3. Composed in a Docker container and deployed using OpenShift.

CHRON-X | Personal Project
October 2018 – December 2018 | Ann Arbor, MI

- Designed and built a DIY Arduino-based smartwatch with an operating system written in C++. Receives notifications from smartphones over Bluetooth. (Blog post: medium.com/@ryansiu/how-to-make-your-own-smartwatch-35ff8306c160)

SKILLS

LANGUAGES
Proficient: Python • Java
Familiar: C • C++ • Javascript

SOFTWARE DEVELOPMENT
Proficient: Flask • Git • Emacs • REST APIs • Agile • Ubuntu • Linux terminal
Familiar: React.js • SQL • Docker • OpenShift • LaTeX

ACCOMPLISHMENTS

2019   HackMIT: Best Use of Nasdaq Datasets (3rd place)
2019   Two Sigma's Halite III Silver Tier (#838/4014)
2017   FIRST Tech Challenge NYC Regionals Winners (Stuy Fission 310)