Ryan **Siu**

ryansiu.tech • github.com/siuryan
Brooklyn, NY • (917) 968-0175 • rsiu05@gmail.com

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 • Michigan Hackers - Puzzles Core Lead • MHacks - Core Member

EXPERIENCE

AFFIRM, INC. | Software Engineering Intern

May 2020 – Present | Remote

- Improved the runtime of a loan aggregation tool from 3-24 hours to less than 5 minutes with Spark, saving more than 1,200 hours of computation time every year. Wrote Luigi tasks to generate, update, and query from a 5 million row ETL containing preprocessed data instead of querying the entire Redshift database (containing 25.5 billion rows).
- Built a new accounting tool that finds examples of loans with histories and/or characteristics that follow specific patterns. Implemented one common pattern, using Spark to query the Redshift database for a matching loan in under 10 minutes. Designed the tool to have a modular, object-oriented structure to allow more patterns to be easily implemented. Eliminates engineering time spent writing manual queries to find these loans and reduces turnover time.

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 our portfolio financier business partners to determine UI design and algorithm specifications.

U-M INFORMATION & TECHNOLOGY SERVICES | Software Developer

February 2019 – Present | Ann Arbor, MI

- Developed an object-oriented application in Python to generate a 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 Sheets API.
- Rebuilt a Java Spring Boot microservice that reads real-time rec building capacity data from a Google Sheet and serves reformatted and manipulated data as a REST API. Migrated from Sheets API v3 to v4 in the process.

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: Spark • Luigi • 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)