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 • Operating Systems • 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 – Aug 2020 | 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 modular, object-oriented accounting tool that finds examples of loans with certain characteristics, using Spark to query the Redshift database for a matching loan in under 10 minutes. Eliminated 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, achieving 6-10x faster runtime compared to legacy algorithms by optimizing the number of service calls and persisting data.
- Communicated weekly with our portfolio financier business partners to determine UI design and algorithm specifications.

U-M INFORMATION & TECHNOLOGY SERVICES | Software Developer
February 2019 – May 2020 | 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)