Ryan Lam

University of Waterloo Physics & Computing Student | r45lam@uwaterloo.ca | Website | GitHub | LinkedIn

Summary of Qualifications

- Data- and detail-orientated Physics and Computing student with an interest in data science and software engineering
- Self-motivated and able to learn and work in fast-paced environments, developed through an internship at a seed-stage startup
- Experience with algorithm design using functional, procedural, and object-oriented programming
- Knowledgeable in web development technologies, including Express, React, Redux, Jest, Django, and Flask
- Familiarity with relational databases, database design, SQL, NoSQL, APIs, and Git as a back-end web developer
- Knowledgeable in probability, statistics, data analysis and numerical computation using Python

Experience

JamLabs Data Science Toronto, Ontario

Software Test Engineer *January 2022 – April 2022*

- Designed end-to-end test suites using Cypress with 50% test coverage of the complete software to ensure that the application was functioning as expected
- Designed and integrated CI/CD pipelines to create test environments, seed databases, run end-to-end tests, and destroy test environments using Terraform, GitHub Actions, and AWS (Lambda, DynamoDB, S3)
- Analyzed and documented over 60 end-to-end tests via stress testing to optimize runtime and to detect test flakiness
- Designed a proof-of-concept function for Cypress to use a NodeJS process and the AWS SDK to upload to an S3 Bucket

Waterloo Rocketry Design Team Waterloo, Ontario

Software Developer *September 2021 – December 2021*

- Helped rewrite the team website using ReactJS to improve code readability and future maintainability
- Designed and helped architect a Python program that simulated the thrust of various rocket nozzles

Projects

ClassAI | *ExpressJS, NodeJS, VueJS, Tailwind CSS, Google Firebase, JavaScript* February 2022

- Built a classroom platform that utilizes AssemblyAI's API to timestamp and summarize important sections in video lectures.Teachers are able to modify the suggested timestamps and summaries before finalizing the video upload to their class
- Implemented a workflow for teachers to upload a lecture to Google Cloud, have the video processed, and return the timestamps and summaries to be finalized by the teacher
- Designed the backend using ExpressJS and a hashtable-inspired NoSQL database using Google Firebase
- Winner of the AssemblyAI Challenge at PolyHacks 2022 hackathon, valued at $200

Tree Analyzer | *Django, SQLite, Python, VueJS, ChartJS* June 2021

- Built a web application to help forestry companies visualize forestry data and wood-cutting sustainability
- Implemented a feature that enabled users to visualize their tree data through scatter plots, bar charts, and weighted bubble charts using ChartJS
- Awarded the Apply Digital Data-First Award at Hack the Earth 2021, valued at $600

Education

University of Waterloo Waterloo, Ontario

Candidate for Bachelor of Science, Honours Physics & Computing Minor *September 2020 — Present*

Clubs & Activities: Computer Science Club, UWaterloo Tech+, Waterloo Rocketry Design Team, Entrepreneurship Club

Relevant Courses

Elementary Algorithm Design and Data Abstraction; Data Types and Structures; Algorithmic Problem Solving; Databases; Numerical Computation; Computational Physics; Probability, Statistics, and Data Analysis for Physics; Calculus 1/2/3; Linear Algebra 1

Technical Skills

Programming Languages: Python, JavaScript, HTML, CSS, C, Racket, SQL
Frameworks: NodeJS, ExpressJS, ReactJS, JestJS, MochaJS, Cypress, Django, Flask
Libraries: ReduxJS, Testing-Library, NumPy, SciPy, SymPy, Matplotlib, Pandas
Databases: SQLite, Google Cloud Firestore
Software & Tools: Git, GitHub, Postman, Terraform, Jupyter Notebook/Google Colab
Other: MacOS, Windows, Microsoft Office, G Suite, LaTeX