

# RYAN LAM

University of Waterloo Physics & Computing Student | [r45lam@uwaterloo.ca](mailto:r45lam@uwaterloo.ca) | [Website](#) | [LinkedIn](#) | [GitHub](#)

## SUMMARY OF QUALIFICATIONS

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- 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, Socket.IO, Jest, Django, and Flask
- Familiarity with relational databases, database design, SQL, NoSQL, APIs, WebSockets, and Git as a back-end web developer
- Experience with scientific programming and libraries including Jupyter Notebooks, NumPy, SymPy, Matplotlib, and Pandas
- Knowledgeable in probability, statistics, data analysis and numerical computation using Python

## EXPERIENCE

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### JamLabs Data Science

Toronto, Ontario

*Software Test Engineer Intern*

*January 2022 – Present*

- Designed end-to-end test suites using Cypress with approximately 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)
- Analyzed and documented over 50 end-to-end tests via stress testing to optimize runtime and to detect test flakiness
- Designed and implemented custom Cypress commands to improve code re-usability for future test development

### Waterloo Rocketry Design Team

Waterloo, Ontario

*Software Team Member*

*September 2021 – Present*

- Helped rewrite the team website using ReactJS to improve code readability and future maintainability
- Currently working on a Python program to simulate the thrust of various rocket nozzles

## PROJECTS

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### [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, 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

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### 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

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

## TECHNICAL SKILLS

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**Languages:** Python, JavaScript, HTML, CSS, C, Racket, SQL

**Frameworks:** ExpressJS, ReactJS, JestJS, MochaJS, Cypress, Socket.IO, Django, Flask

**Libraries:** ReduxJS, Testing-Library, NumPy, SciPy, SymPy, Matplotlib, Pandas, Statsmodels, Seaborn

**Databases:** SQLite, Google Cloud Firestore

**Software & Tools:** Git/GitHub, Postman, Terraform, Jupyter Notebook/Google Colab

**Other:** Linux, Microsoft Office, G Suite, LaTeX