

Chair, Department of Combinatorics and Optimization
Faculty of Mathematics
University of Waterloo

Dear Department of Combinatorics and Optimization members,

I am writing to express my interest in the Undergraduate Research Assistantship within the Combinatorics and Optimization faculty. My enthusiasm for this opportunity stems from my profound interest in mathematics and its applications in solving complex problems, an area where I have devoted considerable time and effort during my academic journey.

My education and interests are a good match for this position. Currently, I am enrolled in CO 255, which delves into linear optimization, discrete optimization, and so much more. I am deeply intrigued by the course contents, including numerous concepts in optimization and various algorithms, and am eager to explore these topics further through hands-on research.

Additionally, my commitment to this field is further demonstrated by my decision to pursue a second major in Combinatorics and Optimization alongside my current major in Computer Science. This interdisciplinary approach will enable me to bring a comprehensive set of skills and a unique perspective to the team, contributing to the projects.

Enclosed with this letter are my resume for your review. I am very excited about the possibility of contributing to and learning from the prestigious team at the University of Waterloo and am eager to bring my background in theoretical and applied mathematics to the upcoming projects.

Thank you for considering my application. I look forward to the possibility of being part of this exciting program.

Sincerely,

Eason Li

Eason Li

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EDUCATION

University of Waterloo

Honours Computer Science, Co-operative Program

Waterloo, ON

Aug. 2023 – May 2028

Related Courses

Math 249, CO 255, Pmath 347, Math 245, 247

EXPERIENCE

Volunteer

Friendship Inn

Jul. 2022 - May. 2023

Saskatoon, SK

- Dedicated time to volunteer in providing food and support for homeless individuals.
- Actively participated in food service, involving preparation, distribution, and cleanup.
- Collaborated with a team of volunteers to efficiently coordinate food-related activities.

PROJECTS

Flappy Bird Game | *Python, PyGame*

May. 2023 - Jun. 2023

- Utilized class to create and manage pipes generated in the game.
- Used PyGame to run the game smoothly.

Chess Game | *JavaScript, p5.js*

Nov. 2023 - Dec. 2023

- Implemented Object-Oriented Programming using classes for a modular chess game structure.
- Utilized arrow functions to enhance code conciseness and readability.
- Designed an intuitive and visually appealing user interface for an enhanced user experience.

Maze Generator | *JavaScript, p5.js*

Oct. 2023 - Jan. 2024

- Implemented an algorithm that randomly generates a maze using classes and arrays.
- Effectively used arrays for recursive maze generation and checking wall status during object movement.
- Utilized class methods for creating and managing each cell in the maze.

CC3K | *C++*

Jul. 2024 - Aug. 2024

- Implemented game features in C++ involving dynamic character interactions, randomized game elements, and ASCII graphical display, enhancing my proficiency in object-oriented programming.
- Utilized design patterns to address specific game development challenges such as character generation and behavior management.

AWARDS

Euclid Math Contest: 2022 - Group V

CSMC Math Contest: 2022 - Group IV

Fermat Math Contest: 2022 - Group V

Hypatia Math Contest: 2022 - Group V

COMC: 2021 - Saskatchewan Bronze Award

International Student Entrance Scholarship - \$10,000 (University of Waterloo)

President's Scholarship of Distinction - \$2,000 (University of Waterloo)

TECHNICAL SKILLS

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

Frameworks: P5.js, TailwindCSS

Developer Tools: Google Cloud Platform, VS Code, PyCharm

Libraries: pandas, NumPy, SciPy, Matplotlib, JAX, PyTorch, Scikit-Learn, SymPy