

# Brighten Zhang

✉ [brighten.zhang@uwaterloo.ca](mailto:brighten.zhang@uwaterloo.ca) | ☎ 437-234-3818 | 🌐 [bistromath25.github.io](https://bistromath25.github.io)

## SKILLS

---

**Languages** HTML, CSS, C/C++, Python, Java, JavaScript, Racket, Applescript  
**Tools & Frameworks** Django, Flask, React.js, Node.js, Git, Heroku, MongoDB, Visual Studio

## PROJECTS

---

### Moraband Chess Engine | [Github](#)

- Developed a UCI-compatible chess engine in C++ using modern search and evaluation techniques to build professional software design and project management skills
- Legal move generation measured 160,000,000 nodes/second (moves/second) on Apple silicon M1, single-threaded
- Hosted a Lichess BOT account on the Heroku cloud as a python app using worker dynos

### Word Predictor | [Github](#)

- Implemented a trigram language model in Python using the nltk module to predict the appropriate next word in a sentence based on an input text
- Created a Flask RESTful API with message endpoints and responses from an SQLite3 database with over 1,000 entries

### Image Host | [Github](#)

- Built an image-hosting web application using the Node.js framework to easily share images online publicly with friends

### [bistromath25.github.io](https://bistromath25.github.io) | [Github](#)

- Created a personal website and portfolio using HTML & CSS to showcase projects in a professional environment
- Applied elements of responsive web design for an engaging user experience

## WORK EXPERIENCE

---

### Summer Camp Counsellor

Jul. 2021 - Aug. 2022

*City of Toronto*

*Toronto, ON*

- Collaborated with other counsellors to design and lead engaging camp activities for young children aged 6 to 12
- Fostered positive social connections between campers and eased pandemic anxiety
- Maintained clear communication with parents and guardians to ensure participants' safety and enjoyment

### Open Gym Monitor

Jan. 2022 - Apr. 2022

*City of Toronto*

*Toronto, ON*

- Monitored gym activities during open recreation hours and distributed sports equipment

## EDUCATION

---

### University of Waterloo

Waterloo, ON

*Candidate for BCS Computer Science*

*Sep. 2022 - Apr. 2027 (expected)*

- Cumulative Average: 90.0/100
- President's Scholarship of Distinction (2022 & 2023)
- Applied ideas and concepts from the functional programming paradigm to solve algorithmic problems using Racket in CS135: Designing Functional Programs
- Developed critical presentation skills and applied speech design concepts in SPCOM223: Public Speaking
- Currently taking CS 136: Elementary Algorithm Design and Data Abstraction

## MATH AND COMPUTING CONTESTS

---

**USACO** Promoted to the Gold division during the United States Computing Olympiad's February 2022 contest

**CCC** Scored in the top 25% of contestants on the 2022 Senior Canadian Computing Competition

**Euclid** Scored in the top 25% of contestants on the 2022 & 2021 Euclid Mathematics Contest