Brighten Zhang

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SKILLS

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

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
- 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, CS 136L: Tools and Techniques for Software Development

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
- Applied a traditional alpha-beta search algorithm within a nega-max framework with iterative deepening, and incorporated transposition tables and tapered material values in evaluation functions
- Hosted a Lichess BOT account on the Heroku cloud as a python app running worker dynos

bistromath25.github.io | Github

- Created a personal website and portfolio using HTML & CSS to showcase projects in a professional environment
- Applied concepts of HTML responsive web design and client-side Javascript for an enriched user experience

Word Predictor | Github

- Implemented a trigram language model based on Markov Chains 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

imgdb Image Host | Github

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

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
- Supervised inclusive environment for participants of all skill levels to practice various indoor sports