

# Dylan Faelker

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## Skills and Abilities

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**Languages** Java, Python, Javascript, C, CSS, HTML, C#, Scheme

**Technologies** React, Pandas, NumPy, yFinance, NumPy financial, Matplotlib, XML

**Software** GitHub, Eclipse, Jupyter Notebook, VS Code, Windows, Linux

## Projects

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### Automated Investment Portfolio Generator | *Python (numpy, pandas, numpy financial, yFinance)*

- Collaborated with and led a group of developers through the design and development process of the algorithm
- Constructed a data extraction program which uses **Yahoo Finance API** to obtain information on 500 stocks
- Developed an algorithm using **pandas**, **numpy** and **financial analysis techniques** in order to optimize risk for a list of tickers
- Applied **multithreading** to decrease the runtime of data extraction to 7% of previous run time

### Infinity Chess and Chess AI | *React, Javascript, CSS, HTML*

- Developed a interactive front-end interface using **React**, **JS** and **CSS/HTML** for a chess game
- Implemented all back-end chess in logic including en passant, pinned pieces, and a custom rule where pieces can go off the board
- Created a **Chess AI** using **searching algorithms** and **alpha beta pruning**, capable of evaluating hundreds of positions at once

### Personal Website | *React, Javascript, CSS, HTML*

- Developed a responsive multi-page front-end interface using **React**, **JS** and **CSS/HTML** from scratch incorporating previous software projects all in one place and ready to use

## Work Experience and Career Development

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### The Zero Program | September 2021 - October 2021

- Researched major issues that will affect our future in space technologies in partnership with other UWaterloo students
- Brainstormed and designed solutions for the problem of the growing amount of space debris.

### Lifeguard | Town of Oakville | September 2018 - September 2021

- Maintained and improved customer relations through effective communication and support.
- Had zero emergencies during my time due to excellent communication with patrons and co-workers preventing unsafe situations

### Swim Instructor | Town of Oakville | September 2019 - September 2021

- Organised lesson plans to ensure enjoyment by swimmers and development of skills.
- Led swimming lessons and evaluated proper swimming technique for children aged 0-13.

## Education

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### University of Waterloo | September 2021 - April 2026

Candidate for Bachelor of Computer Science and Finance Management, Honours

**Awards and Distinctions:** Dean's Honours List; President Scholarship of Distinction

**Relevant Courses:** Introduction to Financial Markets and Data Analytics, Designing Functional Programs, Elementary Algorithm Design and Data Abstraction

## Interests

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- Running, Biking and Swimming, Dragon Boat Team, Chess, Managing personal investment portfolio