

# Arthur Bright

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## EDUCATION

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### University of Waterloo

Sept 2021 - Apr 2025

Candidate for Bachelor of Computer Science

GPA: 4.0/4.0

- **99.3%** faculty average, taking advanced-level math/CS courses
- Top 200 (global) in Putnam Math Competition
- One of 10 Mathematics National Scholarship Recipients in Canada

## WORK EXPERIENCE

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### Jane Street - Software Engineer Intern

May 2024 - Present

- Fixed Income - Trading Desk Developer

### Bloomberg L.P. - Software Engineer

Aug 2023 - Dec 2023

- Researched **semantic graph** storage methods and **pathfinding algorithm** performance on semantic graphs
- Developed service to handle graph queries with caching, allowing semantic searches of financial data with significantly reduced response time

### Questrade - Software Engineer Intern

Jan 2023 - Apr 2023

- Developed new API endpoints for a market data microservice using **Nest.js**, allowing users to make batch requests of security data from listing exchanges and improving request efficiency by **150%**
- Implemented data **preprocessing** and safety checks to prevent microservice errors/outages, ensuring that **real-time** market data is always accurate

### Imagine Communications - Backend Developer Intern

May 2022 - Aug 2022

- Developed a robust HTTP client in **.NET** for communicating with **Amazon S3** cloud storage, abstracting file transfers into simple asynchronous function calls
- Optimized **PostgreSQL** database connections by strategically pruning idle connections, improving performance **tenfold**

## PROJECTS

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### Multipiano

Realtime multiplayer piano app; key presses are synchronized across multiple clients. Supports transposing, private rooms, and input customization. Created with **Node.js** + **Socket.io**

### Spectral

Neural network that identifies musical chords from audio samples via spectrogram. Built on **Python** + **Tensorflow/Keras**

### Hotspot

Crowd-sourced web app that tracks COVID-19 spread on a heatmap. Made with **Node.js**, **React**, **MongoDB**, and **Google Maps API**. Winner at [GarudaHacks 2020](#)

## SKILLS

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**Languages:** C++, Python, Java, OCaml, C#, JS/TS, HTML/CSS

**Technologies:** Git/Hg, Node.js, .NET, HTTP, Express, Socket, VS

## HOBBIES & INTERESTS

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Music arrangement · Boulderling · Math/Computing contests · Singing in the shower