Arthur Bright

 arthurbright | a2bright | arthurbright.github.io | artb1234567@gmail.com

EDUCATION

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

Jane Street - Software Engineer Intern   May 2024 - Present

- Fixed Income - Trading Desk Developer

Bloomberg L.P. - Software Engineer Intern   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   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

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

Languages: C++, Python, Java, OCaml, C#, JS/TS, HTML/CSS
Technologies: Git/Hg, Node.js, .NET, HTTP, Express, Socket, VS

HOBBIES & INTERESTS

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