

# Aidan Traboulay

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## Skills

**Languages** Rust, Go, Typescript, C/C++, Java, Python, PHP, SQL, Bash  
**Frameworks** React.js, Next.js, Node.js, Tensorflow, Flask, Django, Laravel, Actix Web, Gin  
**Dev Tools** AWS, Confluence, Docker, Firebase, Git, Google Cloud Platform, Jira, Kali Linux, LaTeX, Metasploit, Wireshark

## Experience

### Research Assistant

Waterloo, Ontario

WILFRID LAURIER UNIVERSITY

Nov 2023 – Present

- Developed a **deep learning ensemble** with **LSTM** and **GRU** models that integrates aerial imaging and air quality data to improve environmental monitoring, enhancing detection accuracy for the Canadian Government, leading to **more effective pollution control measures**
- Technologies:** Tensorflow, Keras, Google Earth Engine API, Python, Git

### Vice President of Engineering

Waterloo, Ontario

HAWKHACKS

Sept 2022 – Present

- Managed a team of 6 to develop a scalable event platform by building a **high-traffic landing page** and a comprehensive **custom dashboard** for event and user management, handling over **1800 applications** and supporting **700 attendees**
- Integrated **Firebase** for real-time data management and authentication, enhancing user experience and security, which contributed to a more robust and responsive system infrastructure
- Technologies:** React.js, Vite, TypeScript, TailwindCSS, Firebase, Discord API, Git

### Vice President of Development & Technology

Waterloo, Ontario

LAURIER COMPUTING SOCIETY

Jan 2022 – May 2024

- Charged with leading an **agile-development team** of 11, I managed and enhanced technical projects and events, significantly increasing member engagement and project delivery success
- Spearheaded a hackathon in collaboration with the University of Waterloo, fostering innovation and collaboration among over **400 participants**
- Technologies:** React.js, Vite, Mantine UI, Storybook, JavaScript, Firebase, Discord API, Notion, Git

### Analyst Programmer Intern

Port-of-Spain, Trinidad & Tobago

GUARDIAN GROUP

May 2021 – August 2021

- Implemented **reCAPTCHA** on web forms to combat increased bot activities, enhancing site security and reducing spam traffic by **95%**.
- Technologies:** React.js, JavaScript, Azure DevOps, reCAPTCHA v3, Git

### Software Engineer Intern

Port-of-Spain, Trinidad & Tobago

WIPAY CARIBBEAN

Feb 2020 – May 2020

- Developed an **Android** application that boosted the WiPay platform interest by **75%**, streamlining payment transactions and enhancing user experience
- Improved functionality and security of the platform's internal systems, including a complete overhaul of the admin panel using **Laravel**
- Technologies:** Laravel, PHP, Android (Kotlin), Apache HTTP, Spark SQL, Git

## Education

### Honours Bachelors of Science in Computer Science

Waterloo, Ontario

WILFRID LAURIER UNIVERSITY

Sept. 2020 - Oct. 2024

- Relevant Coursework:** Data Structures, Algorithms, Parallel Programming, Operating Systems, Compilers, Computer Networks

## Certifications

Developing Cloud Applications with Node.js & React, IBM, edX

2022

Cybersecurity Professional Certificate, Google, Coursera

In-progress

Azure Security Engineer Associate (AZ-500), Microsoft, Coursera

In-progress

Security+ (601), CompTIA, Simplilearn

In-progress

## Projects

### RTracer

Waterloo, Ontario

RUST

Sept 2022 – July 2023

- A lightweight **CPU-based** Rust raytracer that supports key features such as spheres, lambertian reflection, metal-like surfaces, and dielectrics to simulate light bouncing off and refracting through various materials
- The program calculates how light interacts with objects in a 3D scene to generate detailed, photorealistic images. It also uses **anti-aliasing techniques** for higher image quality and incorporates a pseudorandom number generator to model the random scattering of light and scene generation