# James Bundgard

Jmgbundg@uwaterloo.ca
jamesbundgard.com
github.com/JamesBundgard

## Summary of Qualifications

Software developer with 6+ years of programming experience. My interests range from operating system drivers to software architecture, with a passion for high-quality software development.

## Experience

### BACKEND DEVELOPER | KIAVI | 2022
- Helped design a loan origination system using **event sourcing** and an **event-driven** architecture**.**
- Designed a new **Kotlin gRPC microservice** with a **PostgreSQL cache** to reduce API costs.
- Created platform-wide guidelines for logging, unit tests, linting, and gRPC best practices, including automatic API **breaking change detection** and error code mapping conventions.
- Configured and debugged new **CI/CD pipelines** for testing and deploying microservices.

### FULLSTACK DEVELOPER | MCAP | 2021
- Contributed to a project with **80+ RESTful Node.js microservices** written in **Typescript**.
- Profiled and optimized **MongoDB searching** to **decrease search times by 20%**.
- Investigated and resolved issues with CI/CD pipelines in **Azure DevOps.**
- Worked on a **Typescript Vue.js** application for reviewing and underwriting mortgages.

### CYBER SECURITY DEVELOPER | CYNORIX | 2020
- Contributed to a **Node.js** cloud storage project using **MongoDB,** with **C#** and **Android** clients.
- Implemented **streams and pipes** for large server requests, **reducing upload times by 75%**, download times by 30%, and increasing the **maximum supported file size by 500%.**

## Projects

### LINUX NETWORKING RESEARCH ASSISTANT | UWATERLOO | 2022
- Exploring existing mechanisms for **Linux kernel bypass networking** and combining that with a **user-level networking stack** to improve performance and memory usage.
- Applications: **Memcached**, a custom **user-level threading runtime,** and the **Docker daemon**.

### GAME BOY EMULATOR (WIP) | 2021
- A cross-platform Game Boy emulator written in **C++** and developed in **VS2019**.
- Handles all opcodes correctly and capable of loading and running ROM files.
- Working background tile **graphics rendering** and **system interrupts**.

### SMS DIRECTIONS | 2021
- A **Node.js** server that uses **Twilio** to respond to **SMS messages** with directions and jokes.
- Interfaces with **Google's Directions API** to find routes for various transportation modes.
- **Automated deployments** and **HTTPS** certificate management with **Github** and **Heroku**.

## Education

### BACHELOR OF COMPUTER SCIENCE CANDIDATE | UNIVERSITY OF WATERLOO
- In term **4A**; Relevant courses: Algorithms (CS 341, CS 466), Principles of Programming Languages, Operating Systems, Networking, and Computer Graphics.