# Sebestien Palmerio

sl3palme@uwaterloo.ca | sebestien.com | github.com/sebpalmerio | linkedin.com/in/sebestien

## Education

### University of Waterloo
*Expected Graduation December 2023*

Bachelor of Mathematics in Computational Mathematics
*3.61 MAV*

- Majoring in Honours Computational Mathematics - Co-op with a Computing Minor
- University of Waterloo Merit Scholarship Recipient
- Relevant Coursework: Computer Systems, Algorithms, Data Structures, Logic and Computation, Object-Oriented Programming, Databases, Computational Mathematics

## Work Experience

### Software Engineering Intern
*September 2021 - April 2022*

Palitronica Inc.
*Waterloo, ON*

Developed critical infrastructure for early-stage cybersecurity start-up funded by Y Combinator and the DND, including:

- A scalable back-end of microservices using .NET Web APIs, completely automating Azure deployments and NoSQL database operations for municipalities across Ontario
- An Ansible playbook to automate the provisioning of Azure IoT Edge devices, reducing deployment time by up to 90%
- A standalone .NET IoT Device simulator, used for QA testing of Azure IoT Edge modules from the comfort of home
- Scripts in Python to iterate through CPU core usage and clean erroneous data in MinIO, improving ML algorithm training
- Logging and CD pipelines for .NET microservices with ELK, Azure Event Hubs, and Drone, saving 20+ hours of QA efforts

### Undergraduate Research Assistant - Embedded Software Group
*May 2022 - Present*

University of Waterloo
*Waterloo, ON*

- Continue engineering efforts for cybersecurity projects spanning the Royal Canadian Air Force, Canadian/US infantry vehicles, the maritime industry, waste water treatment plants, and more with Palitronica Inc.
- Onboard and review PRs of new graduate and co-op students continuing the development of back-end microservices
- Supervised by Professor Sebastian Fischmeister under the Department of Computer Engineering

### University Math Tutor
*September 2021 - Present*

Self-Employed
*Waterloo, ON*

- Deliver undergrad math content to UWaterloo students, resulting in around 20% grade improvements on assessments
- Conduct weekly one-on-one sessions with 4 recurring students each term while balancing studies and extracurriculars
- Courses taught (with number of students): Algebra (9), Linear Algebra I/II (3) Intro to Optimization (2), Calculus III (1)

## Projects

### Capital Ships API (source)
*Personal Project*

A .NET Web API with CRUD Operations and Advanced SQL Queries

- Implemented a .NET Web API using Swagger, interacting with an in-memory SQLite database
- Designed the SQLite database in Boyce-Codd normal form with its corresponding Entity-Relationship Diagram

### Pysics (source)
*Personal Project*

A Computational Physics Python Library

- Includes methods of integration and differentiation, root finding, BVPs, and Monte Carlo simulations

### MyInterviewer (source)
*Hackathon Project*

A Web App Based Interview Preparation Platform for Non-Native English Speakers

- Integrated Google Cloud Text-to-Speech and Speech-to-Text APIs in the back-end with GC Storage buckets using Python

## Technical Skills

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|---|---|
| **Languages** | Python, C, C++, C#, Bash, LaTeX |
| **Frameworks/Tools** | .NET, Ansible, Azure, Docker, Drone, ELK Stack, Kafka, Git, Jupyter, Linux |
| **Databases** | MinIO, NoSQL, SQLite |