

Julian Halsøy

julian.halsoy@gmail.com | 483 58 815 | [linkedIn/linkedInUsername](#) | [github/julianhal](#)

EDUCATION

BSc. Honours Computer Science With Software Engineering Specialization

Windsor, ON | Jun 2021

UNIVERSITY OF WINDSOR

Teacher Assistant (TA): World Wide Web Information Systems Development

WORK EXPERIENCE

AMAZON | SOFTWARE DEVELOPMENT ENGINEER INTERN

Toronto, ON | May 2020 – Aug 2020

- Designed and implemented a dashboard using **React** and **TypeScript** to visualize data stored in **DynamoDB**, decreasing time to understand delivery driver work sessions by over 10 times.
- Ensured only authorized employees have access to the application by creating an **AWS Lambda@Edge** function to intercept and sign valid requests.
- Devised and deployed the infrastructure in TypeScript through **AWS CDK**, then created efficient algorithms to process data from a custom **REST API**, so it could scale to handle millions of deliveries.
- Setup a CI/CD pipeline and exceeded requirements in each stage, which lead to the application being pushed to production.

UNIVERSITY OF WINDSOR | RESEARCH ASSISTANT (RA)

Windsor, ON | Feb 2020 – May 2020

- Developed a Personal Health Record (PHR) system in **Spring** based on the theoretical model outlined in [Mitu Kumar's thesis](#).
- Applied the mCP-ABE encryption scheme using the JPBC library, so patients have fine-grained access control over their health records with the ability to instantly revoke access.

JOATU | SOFTWARE ENGINEER INTERN

Montreal, QC | Dec 2018 – May 2019

- Rewrote legacy **Django** code in **Ruby on Rails** and refactored it to make the system more extensible.
- Created **UML** diagrams and documented where features were implemented, to make the codebase more maintainable.

PROJECTS

AUTOMATED SPEAR-PHISHER

PYTHON, PYSPARK, SELENIUM, APACHE, NLP, BIG DATA

A security research tool to send targeted spam messages on either Facebook or Twitter. The program analyzes the feed of its target to increase the effectiveness of the messages.

IMAGE REPOSITORY

JAVA, PHP, REACT, TYPESCRIPT, MAVEN, GCP, MYSQL

A full-stack image repository, where users can store their files. Created a GCP cloud function to implement CP-ABE encryption and used it to ensure files are secure at rest.

BIOMETRIC DYNAMIC KEYSTROKE SPOOFER

PYTHON, OBJECT-ORIENTED DESIGN, CYBERSECURITY

A program that authenticates users based on their typing patterns. And a spoofer that uses the genetic algorithm to mimic the user's typing pattern.

DISTRIBUTED KEY-VALUE STORE

JAVA, DISTRIBUTED SYSTEM, COMPUTER NETWORKS, CONCURRENCY

A distributed key-value store which automatically replicates data in the background while the user manages their data. Implemented a custom P2P protocol to maximize fault tolerance and scalability.

WAR OF WEEBLES

C#, UNITY, CONCURRENCY, ARTIFICIAL INTELLIGENCE

A capture-the-flag-styled shooting game composed of AI-controlled players. The agents change their goals based on various factors, such as their health, current weapon, their personality and what they see.

SKILLS

Languages: Java, C++, Python, C#, PHP, Prolog, Bash, C, Racket, SQL

Web Development: React, JavaScript, TypeScript, HTML/CSS

Technology: Git, AWS, GCP, Azure, Docker, Unity, Apache, \LaTeX , MongoDB, DynamoDB, Neo4j