Benjamin Austin

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Education

University of Victoria — BSEng, Software Engineering   Sep 2017 — Aug 2022
- Specialization in Cyber-Physical and Smart Systems

Technical Competencies

Languages: Python, C, C++, Go, HTML, CSS, Assembly, LaTeX
Tools: Git, AWS, Docker, CircleCI, Vim, Shell Scripts
Databases: PostgreSQL, etcd

Experience

MarineLabs — Junior DevOps Engineer   Sep 2021 — Jun 2022
- Implemented and improved the reliability of new features, microservices, and APIs composing a cloud processing pipeline responsible for handling high-resolution realtime data from a fleet of maritime IoT devices.
- Designed and automated the the deployment of multiple AWS stacks using AWS CloudFormation and Python.
- Implemented an automated CircleCI testing framework to validate the functionality of multiple AWS Lambda functions, significantly reducing both development time and number of bugs.

National Research Council Canada — Software Developer Co-op   Jan 2021 — Apr 2021
- Researched and prototyped a collection of software systems to schedule, execute, and store the data from solar observations for an ongoing project at the Dominion Radio Astrophysical Observatory (DRAO).
- Consolidated communications between unique types of endpoint devices by implementing JSON over HTTP communication with RESTful API's, allowing communication via a single protocol.
- Utilized a key/value database and its features to dynamically monitor a subset of observation requests, significantly reducing database traffic while simultaneously allowing for real-time observation schedule updates.

ACD Systems — Quality Assurance Analyst Co-op   Jan 2019 — Aug 2019
- Performed a variety of quality assurance testing on a wide range of web services throughout their development lifecycle, providing confidence in product releases, updates, and maintenance.
- Researched and ensured the functionality of the payment processing pipeline throughout its re-design to comply with Europe's PSD2 regulations.

Technical Projects

128-Bit RSA Cryptography
- Researched, implemented, and optimized a 128-bit implementation of the RSA cryptography algorithm on a 32-bit ARM processor using a variety of optimization techniques and a proposed hardware assist.

Distributed Systems and Data Privacy
- Contributed prototype implementations and research to propose innovative solutions using distributed systems while simultaneously aiming to preserve the privacy of sensitive generational knowledge.

Brain Tumor Detection
- Helped design, train, and optimize a simple machine learning model to recognize brain tumours in MRI brain scans.

References available upon request.