SAMUEL EMARD-THIBAULT

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EDUCATION

Bachelor of Applied Science, Smith Engineering, Queen's University, Kingston, ON **Sept 2020 – May 2025**

- **Major:** Computer Engineering with Professional Internship
- **Relevant Coursework:** Artificial Intelligence, Machine and Deep Learning, Network Security, Distributed Systems, Quality Assurance, Operating Systems, Performance Analysis, OOP, Data structures and Algorithms

PROFESSIONAL EXPERIENCE

Research Assistant (Software Development), Queen's Smith School of Business, Kingston, ON **Aug 2024 – Present**

- Developing a Next.js and Docker-based application that scrapes web data to create detailed professional student profiles, enabling teaching staff to make data-driven group selection decisions.

Software Developer Intern, Centre for Advanced Computing, Kingston, ON **May 2023 – July 2024**

- Designed scalable systems using Django REST, Express, Next.js, React, and Flutter, supporting both real-time and batch data processing for external clients.
- Optimized cloud infrastructure by migrating services to AWS Elastic Beanstalk, reducing hosting costs by 30% through efficient container orchestration and RDS configurations.
- Configured load balancing and auto-scaling solutions, improving system reliability and maintaining 99% uptime for critical services during peak loads.
- Led onboarding for a 6-member team, delivering comprehensive training to ensure seamless project handovers and collaboration.

Production Engineer Fellow, Major League Hacking, Remote **Jun 2022 – Aug 2022**

- Engineered CI/CD pipelines that automated testing and deployment processes to Linux servers, reducing review process workloads and deployment times by over 50% using GitHub Actions, Docker, Bash, and Pytest.
- Implemented system monitoring solutions with Prometheus and Grafana, maintaining 99.9% uptime for critical Linux servers and providing real-time alerts for service issues.

PROJECTS

Sustainable Supercomputing – Undergraduate Capstone Project (*C/C++, Python, Linux, Git)*

- Contributing to PowerAPI to optimize proactive system power controls, outperforming default Linux power governors by dynamically adjusting CPU frequencies using application hints for the Quicksilver scientific application.
- Built and configured Ubuntu test servers and prepared workloads for execution on the Frontenac Cluster.
- Developed C plugins to manipulate core frequencies from application hints and identify serial and parallel code regions.

Leaf Hack – QHACKS 2024, 1st place overall (*Next.js, TypeScript, Django Rest Framework, AWS S3, Oracle Cloud, ResNet9, SQL*)

- Developed a Django REST API serving an ML model with 95% accuracy for plant disease detection, enabling real-time insights and secure user data processing using PostgreSQL.
- Designed a token-authenticated frontend with Next.js and Axios to display model predictions and LLM-generated recommendations.
- Configured a cloud-native CI/CD pipeline, integrating S3 bucket storage to serve staging environment data and improve development workflows.

Minute Tutor – #HackTO 2022, 1st place overall (*React.js, Flask, MySQL, Peewee)*

- Engineered a web application integrating Flask and React, enabling dynamic querying and efficient matchmaking.

SKILLS

Languages:	**Proficient:** Python, C/C++, JavaScript/TypeScript	**Familiar:** Java, Bash, Dart
Frameworks:	**Proficient:** Django Rest Framework, Flask, React.js/Next.js	**Familiar:** Spring Boot, Node.js, Flutter
Tools:	**Proficient:** AWS, Docker, Git, RDBMS and ORMs (SQL/NoSQL)	**Familiar:** GCP, OCI
ML & MLOps:	**Familiar:** scikit-learn, PyTorch, LLM APIs	