Emily Perica

5th Year Software Engineering Co-op Student
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Education

McMaster University Sept 2020 – Apr 2025
Bachelor of Engineering, Software Engineering Co-op *Hamilton, ON*
- **CGPA**: 3.6

Experience

Wealthsimple May 2024 – Aug 2024
Application Security Developer Intern *Toronto, ON*
- Developed and deployed an internal microservice with **Ruby on Rails**, **AWS ECR**, and **ArgoCD** to replace external infrastructure for hosting security automations.
- Played a key role in deploying SAST, SCA, and secrets detection tools across CI/CD pipelines, working closely with feature and DevOps teams to automate **vulnerability detection** and safeguard sensitive information.

SOTI Jan 2023 – Aug 2023
Software Developer Intern *Missisauga, ON*
- Developed an internal tool in **C#** with **ASP.NET**, integrated with Jenkins and GitHub APIs, to improve backend error detection. Reduced error discovery time by **50%** and resource costs by **75%**.
- Conducted API testing and developed unit and integration tests in C# for **BDD with Cucumber**, integrating them into a CI/CD Jenkins pipeline to reduce technical debt and improve test coverage.

Extracurriculars

McMaster EcoCAR Oct 2022 – Present
Automatic Intersection Navigation (AIN) Lead
- Led the development of an Automatic Intersection Navigation controller for the autonomous driving system of a customized Cadillac Lyriq, overseeing end-to-end implementation from initial design to deployment.
- Developed **C++** algorithms for intersection state detection, as well as intersection approach and departure, enhancing safety and accuracy at connected intersections.
- Built a data processing pipeline to parse **V2X** (Vehicle-to-Everything) data, isolating signal phase and spatial details for intersection path planning.
- Defined AIN system requirements and designed **SIL** (Software-in-the-Loop) testing protocols, ensuring the safety and reliability of critical autonomous driving features.

Software Engineering Society Mar 2022 – Present
VP External *2022-2023*
- Organized and led multiple professional development events, including a Co-op Panel and Industry Night, to support students' career growth and industry readiness.

VP Academic *2023-2024*
- Facilitated meaningful changes in a 2nd year course by engaging in dicussions with both faculty and students, gathering feedback, and collaboratively addressing concerns to enhance the learning experience.

VP Administration *2024-2025*
- Chaired weekly meetings, coordinating with executives to strategize and implement impactiful society initiatives.

Projects

Secure Chat Application Jan 2024 – Apr 2024
- Developed an **AES-256** implementation in Java for an encrypted chat application.
- Utilized **MVC** architecture for modularity and maintainability between the frontend, backend, and data store.
- Conducted requirements elicitation to develop functional and non-functional requirements, as well as use cases to define system interactions and user needs.

Technical Skills

Languages: Java, Python, C#, C/C++, Ruby, SQL, R, MATLAB, Bash, Go
Frameworks: JUnit, NUnit, Pytest, Cucumber, Rails, ASP.NET
Developer Tools: Git, Docker, AWS, Jenkins, GitHub Actions, Jira, Kubernetes, ArgoCD