

Charbel Maroun

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EDUCATION

University of Calgary - Bachelor of Software Engineering Co-op (**Dean's List**)

Expected: Apr 2027

Extra Certifications: AWS Data Engineer (Aug 2025), AWS Cloud Practitioner (Jul 2024)

GPA: 3.8/4.0

WORK EXPERIENCE

Pason Systems

Calgary, AB

Software Engineering Intern | **Python, Java, Bash, Linux, Docker, AWS**

May 2025 – Present

- Deployed automation reducing system downtime from **3 hours to 30 minutes** across **1,000+** production **Linux** systems
- Engineered scripts for **Splunk** logging and telemetry, eliminating field tech visits and saving **\$100K/month**
- Migrated **CI/CD** pipelines to **Dockerized** AWS EC2 environments using **GitHub Actions**, eliminating **weekly** failures
- Implemented **integration/regression** testing within CI pipelines, reducing post-deployment incidents by **98%**

HXI Research Lab

Calgary, AB

Backend Engineering Intern | **Python, C++, Kafka, Redis, MongoDB, WebSockets**

Apr 2025 – Aug 2025

- Built a real-time hydrogen-pipeline **digital twin** that improved leak-detection accuracy from **78% to 84%**
- Designed a **scalable** backend for live telemetry processing, sustaining **7,000+ req/sec** under **production-level** load
- Re-architected **time-series** data pipelines handling **15M+** events, cutting latency from **500 ms to under 100 ms**

GenRep AI

Calgary, AB

Founding Engineer | **Python, JavaScript, React, AWS Lambda, DynamoDB**

Jul 2024 – Feb 2025

- Led a team of **5** engineers to architect and deliver a scalable **cloud** platform for real-time meeting automation
- Designed and load-tested an **event-driven** backend, sustaining **5,000 req/sec** under simulated production traffic
- Implemented **real-time** transcription and **RAG** pipeline, improving action item extraction accuracy from **60% to 90%**

AWARDS & HONORS

- IEEE ICAC 2025 Workshop** — Presented in **South Korea** to **200+** international researchers
- 3x Hackathon Winner** - Hack The Change YYC (**\$4,700**) 2025, Code the Change 2024 (**\$2,000**), BioHacks 2025
- Platform Calgary Early Incubator** — GenRep AI accepted into a competitive startup accelerator
- President, Space Rover Club** — Led a multi-division engineering team to **third** place at the 2024 Rover Competition

TECHNICAL PROJECTS

Jira Automation Engine

Sep 2025

| **Python, Next.js, LangChain, LangGraph, Pinecone, MySQL**

- Built an **agentic** AI system that automated Jira workflows and was **pitched to and adopted by Pason Systems**
- Integrated **retrieval-augmented search** across **10K+** documents, improving accuracy from **65% to 80%**
- Orchestrated a **multi-step** pipeline with tool orchestration and self-verification; reduced **hallucination** from **20% to 5%**

Virtual Quake

Nov 2025

| **JavaScript, Python, Next.js, AWS, PyTorch, XGBoost**

- Built a **physics**-based earthquake simulation engine supporting **80+** structural scenarios, enabling large-scale stress testing
- Parallelized simulation workloads across a **cloud** cluster, reducing per-scenario runtime from **20 minutes to 6 minutes**

TECHNICAL SKILLS

Languages & Systems: Python, Java, C/C++, SQL, Bash, TypeScript/JavaScript

Backend & Architecture: Microservices, distributed systems, event-driven pipelines (Kafka), scalable APIs

Cloud & Infrastructure: AWS, Azure, Docker, Kubernetes, GitHub Actions, Linux, Git; observability & monitoring