

SHEEHAN LLOYD

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Education

University of Waterloo

Bachelor of Software Engineering (BSE)

- President's Scholarship of Distinction · B.P. Dammizio Entrance Scholarship

2025 – 2030

Waterloo, ON

Experience

Redcan.ai

Software Engineering Intern

Toronto, ON

May 2026 – Aug 2026

- Re-platformed a legacy **SAP ABAP** engine onto **AWS** as a production **TypeScript/Node.js** service, replacing a monolith with independently deployable components
- Shipped **server infrastructure**: a contract-first **REST API** published as a versioned, typed package consumed by downstream services
- Modelled and queried **multi-tenant PostgreSQL** data with **row-level security**, enforcing tenant isolation in the database rather than in application code
- Instrumented **reliability and performance** with readiness probes, migration-drift detection, and **CloudWatch** alerting that caught bad deploys early

Nexus Wave Inc.

Junior Software Developer

Markham, ON

Jun 2024 – Aug 2024

- Led an **AI-powered IVR platform** shipped to customers in banks across Canada, implemented in **C** and **Lua** on the **FreeSWITCH** real-time engine
- Profiled and tuned **throughput and latency** in concurrent call handling and **SQL** queries on **Debian 12 Linux** servers under production load

Sun IT Solutions

Junior Software Developer (Part-Time)

Toronto, ON

Jun 2021 – Jul 2025

- Built **full-stack web and mobile applications** in **JavaScript**, **PHP**, and **SQL**, plus automation scripts that replaced recurring manual work
- Designed an **internal ticketing and asset management system** centralizing client requests and IT inventory
- Administered client environments: patching, virtualization, and **Azure** infrastructure provisioning

Projects

Chronos | Rust, ptrace, DWARF, ARM64 Linux

2026

- Built a **reverse-execution debugger** for **ARM64 Linux** that runs a native binary to a crash and steps **backwards** to the instruction that corrupted memory
- Designed a **checkpoint-and-replay algorithm** using **clone injection** over ptrace and DWARF, derived from the **ARM architecture manual** as the literature is x86-only
- Verified correctness with an automated **test harness** asserting replayed register and stack state matches the original run

Relet | Next.js, React, TypeScript, PostgreSQL, Supabase, Stripe

2025 – Present

- Shipped **customer-facing features end to end**, client and server, on a platform that onboarded **10 landlords** managing **15+ properties** in its first month live
- Designed a **no-login, in-browser e-signing flow** that fills the official **Ontario government lease** client-side, cutting a multi-day loop to minutes
- Built an **automated ingestion pipeline** that parses **bilingual Interac e-Transfer** notifications and matches each deposit to its lease in **PostgreSQL**

WhoopSecondWind | Python, data pipeline, CI/CD

2026

- Built a **Python pipeline** that extracts, transforms, and stores **time-series telemetry** from wearable sensors, exposed as **13 tools**
- Implemented **statistical metrics** that refuse to report a result on underpowered data, gated by a **CI eval suite**

Skills

- **Languages:** C++, Java, Python, C, Rust, TypeScript/JavaScript, SQL, Lua, PHP
- **Systems & Performance:** ARM64, Linux servers, concurrency, profiling, latency tuning, memory debugging
- **Data:** Data pipelines, ingestion and transformation, time-series metrics, PostgreSQL, PyTorch
- **Client & Server:** React, Next.js, Node.js, NestJS, Express, Flask, REST APIs, OpenAPI, full-stack delivery
- **Cloud & Tooling:** AWS (ECS, RDS, S3, CloudWatch), Azure, Docker, CI/CD, Git/GitHub, test harnesses

Certifications

- AWS Solutions Architect Associate | Azure AI Engineer | CompTIA Linux+ | Oracle Java SE 8 | PCAP Python