Ajaypal Sallh

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Education

University of Calgary, B.Sc. Computer Science Calgary, AB

GPA: 3.5 | Relevant Coursework: Data Structures and Algorithms, Databases, Operating Systems Sep 2022 – May 2027

Experience

Software Engineer May 2025 – Present

Strathcona Resources *Calgary, AB*

- Designed and shipped a department-wide **Streamlit + PostgreSQL** platform that retired licensed vendor software, eliminating **$350K+** in annual recurring cost and becoming the team's daily system of record.
- Led **4 production initiatives** end to end and shipped full-stack web apps (**React**, **FastAPI**, **Databricks**) to **200+ field-operations users** across drilling, integrity, and operations, owning scope and delivery with senior leadership and Finance.
- Built and deployed a full-stack optimization tool (**React**, **FastAPI**, **Google OR-Tools**) that re-sequences casing connections against geological constraints, cutting material waste and saving **$20K+** per drilling site.
- Developed an **AI agent** that parses alarm history against the **ISA-18.2** standard to prioritize high-risk alarms, surfaced through a live KPI dashboard for control-room operators.

Software Engineering Intern — Cloud Systems Jan 2024 – Apr 2025

Cenovus Energy *Calgary, AB*

- Developed a cloud infrastructure monitoring tool using **Next.js** and **FastAPI** with **TDD**, deployed on **Azure AKS** with **MSAL** authentication, tracking **thousands of VMs** across AWS and Azure.
- Identified a **25%** systematic reporting gap; implemented automated reconciliation logic that surfaced untracked VMs and enabled senior leadership to decommission underutilized infrastructure.

Software Visual Communication Team Lead Oct 2023 – Apr 2025

U of C Solar Car Team *Calgary, AB*

- Led and **doubled** a team of engineers building the **Helios** solar car dashboard in **QML and C++**, applying **AGILE/SDLC** practices to deliver a competition-ready UI optimized for constrained embedded hardware.

Projects

BetterDB — Cross-Platform SQL Client | Github 2026

Electron, React, TypeScript, PostgreSQL, SQL Server

- Designed an abstract **DatabaseAdapter** with separate Postgres and SQL Server implementations behind a singleton connection manager, keeping the engine layer extensible.
- Shipped a schema explorer, **CodeMirror** SQL editor, virtualized results table with execution-time metrics, inline cell editing, server-side pagination, and foreign-key introspection with encrypted connections.

Restore — 1st Place, ZooTech Cursor Calgary Hackathon | Github 2025

Electron, React, Flask, Python, TypeScript, SQLite

- Led product direction and execution for a cross-platform meditation and focus application designed to help users manage anxiety, winning **1st place** out of **20+ teams**.
- Built desktop-native features with **Electron** and backend in **Flask**, including system tray controls, push notifications, simulated heart-rate monitoring, and a **SQLite** database for focus session logs and journal entries; **OpenRouter** integration for targeted anxiety grounding techniques.

Technical Skills

Languages: TypeScript/JavaScript, Python, SQL, Java, C/C++, HTML/XML, PowerShell
Frameworks: React, Next.js, React Native, FastAPI, Flask, Streamlit, Node.js, tRPC, REST, GraphQL, Prisma, Tailwind CSS, Electron, Qt 6/QML
Cloud & DevOps: AWS, Azure, Docker, Kubernetes, Terraform, Jenkins, CI/CD, OAuth, TLS
Databases & Tools: PostgreSQL, MySQL, SQL Server, SQLite, MongoDB, Git, GitHub, CMake, Linux/UNIX, Databricks, Spark, Delta Lake, MQTT, Raspberry Pi, Figma