

AMOGH PANHALE

✉ amoghmpanhale@gmail.com [in linkedin](#) [github](#)

Education

University of Alberta

Master of Science in Computer Science

Bachelor of Science in Computer Science with Specialization

Edmonton, Alberta

Sep. 2026 – May 2028

Sep. 2021 – Dec 2025

Coursework: Database Management, Algorithms, Computer Vision, Abstract Math, Machine Learning

Experience

Software Engineer Intern

May 2026 – Sep. 2026

Neobotics Inc.

Remote

- Architected an open-source Mujoco RL Agent training environment to replace the legacy Unity simulation.
- Increased throughput over baseline, scaling simulation to 1000 parallel environments and 25000 steps/sec.
- Reduced agent training time from 30 to 18 minutes to reach 32 second lap time with 89% success rate.
- Established CI running automated tests and linting on every PR with 92% test coverage.
- Presented in 12 weekly scrum meetings to integrate and implement new features to the project.

Research Assistant

Feb 2025 – Dec. 2025

VASP Lab - University of Alberta

Edmonton, Alberta

- Maintained visual attention code projects in MATLAB, Python, Kotlin, and Swift for 8 researchers.
- Automated processing of 2,800 survey documents using a novel picture-to-spreadsheet pipeline on mobile.
- Built an Android TikTok clone logging swipe images and millisecond watch times on a background thread.
- Refactored legacy MATLAB eye-tracker and Psychtoolbox scripts to match current software best practices.
- Presented code troubleshooting techniques and mentored 1 developer for 4 months in lab methodologies.

Software Engineer Intern

June 2024 – Jan. 2025

Wound³

Edmonton, Alberta

- Built HIPAA-compliant medical-device software that measures and tracks chronic wounds on device.
- Designed a 10-point automated data preprocessing system in Swift that enforces high-quality scans.
- Engineered a Python pipeline around a quantized transformer that masks wounds in under 500ms.
- Deployed an edge-preserving C++ filter that cut 3D wound reconstruction noise by 2.4 dB.
- Delivered an on-device Python OpenCV slide-capture and segmentation system that removed all cloud costs.

Projects

Bookstore Cataloging Tool | *Expo, Open Library API, Claude Haiku, SQL*

- Built an **Expo** mobile app that scans ISBNs against **Open Library** and writes blurbs via **Claude Haiku**.
- Slashed cataloging from 30 minutes to 2 minutes per book across a ~1,000-book volunteer inventory.
- Stored records in SQL with barcode scanning so volunteers sell unfamiliar titles from day one.

Transaction Management System | *Python, FastAPI, PostgreSQL, Redis, Locust*

- Enforced ACID safety under concurrency via **optimistic/pessimistic locking** and idempotency keys.
- Built audit logging and rule-based fraud detection on **FastAPI** for regulatory compliance.
- Sustained 300+ transactions/s at <200ms avg response under 100 concurrent users.

AI Codebase Intelligence Platform | *Python, FastAPI, Qdrant, Claude*

- Architected hybrid **RAG (Qdrant + graph)** for semantic code search across 80+ languages.
- Built multi-language **AST** parsing, Git-history risk scoring, and tenant-isolated embeddings.
- Shipped **LLM**-guarded retrieval with blast-radius analysis and a **D3.js** dependency-graph view.

Technical Skills

Languages: Python, Swift, Kotlin, C/C++, MATLAB, JavaScript, TypeScript, SQL

Frameworks & Packages: React, FastAPI, Node.js, Flask, Streamlit, PyTorch, TensorFlow, OpenCV, Pandas

Databases: PostgreSQL, SQLite, Redis, TimescaleDB, ChromaDB, Qdrant

Software Tools: Git, GitHub, Xcode, Android Studio, Figma, Jupyter, REST APIs, JWT