Manas Joshi

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Open to relocating - currently Edmonton, AB

SUMMARY

Computing Science 4th-year at the University of Alberta, graduating May 2027, with hands-on **production security engineering, full-stack software ownership, and applied ML**. Completed a Frontend and Product Engineering Internship at Orbitra Cybersecurity, where I ran security-focused product testing across the server infrastructure identifying loopholes across authentication, session handling, and data-flow layers, and shipped Slack and email notification APIs. Currently leading AI and Analytics at Take THE Cake (production Anthropic Claude customer assistant) and an ECG signal-analysis research project in the group of Dr. Dongsheng Xiao (NeuroPrior AI). Strong Python, C and C++, JavaScript, TypeScript, SQL, with coursework spanning operating systems, databases, software engineering, algorithms, machine learning, computer architecture, and statistics.

TECHNICAL SKILLS

Programming: Python, C, C++, JavaScript, TypeScript, SQL (PostgreSQL, MySQL), Bash
Security & Systems: authentication and session testing (Orbitra), TLS edge termination via Cloudflare, secure API design, structured incident logging, Linux administration, Docker
Machine Learning: PyTorch, TensorFlow, Scikit-learn, XGBoost, pandas, NumPy, SciPy, deep learning for classification and anomaly recognition
Backend & Web: FastAPI, Flask, REST APIs, HTML, CSS, LeafletJS, GSAP
Databases: PostgreSQL, MySQL, cached stores, SQL query design, data layer architecture
Tooling: Git / GitHub, pytest-driven testing, CI/CD pipelines (Docker + Fly.io + Cloudflare), Claude Code / Cursor / Copilot

EDUCATION

University of Alberta - BSc Computing Science *Expected May 2027*
Edmonton, AB, Canada
Relevant Coursework: Algorithms, Machine Learning, Reinforcement Learning, Computer Architecture, Operating Systems, Databases, Software Engineering, Statistics & Probability

EXPERIENCE

Undergraduate Researcher, ECG Signal Analysis *Aug 2026 - Present*
Research group of Dr. Dongsheng Xiao, NeuroPrior AI

- **Built an end-to-end ECG analysis pipeline in Python** with ingestion, filtering, baseline-wander removal, signal-quality scoring, and Pan-Tompkins QRS / R-peak detection implemented from scratch (NumPy, SciPy, NeuroKit2, WFDB, FastAPI).
- **Achieved 98.4% sensitivity and 99.3% precision for beat detection on 18,552 annotated MIT-BIH beats** (beats NeuroKit2's 98.10 F1 on the same data); 93.2% / 78.0% inter-patient PVC classification; chunked processing for 24-hour recordings in bounded memory; 181 automated tests.

Frontend & Product Engineering Intern *Jul 2026 - Sep 2026*
Orbitra Cybersecurity, Remote (orbitrasecurity.com)

- **Built the frontend of the orbitrasecurity.com product site and its business panels** using HTML, CSS, and JavaScript, shipping customer-facing product pages alongside internal business dashboards.
- **Ran security-focused product testing across Orbitra's server infrastructure**, identifying loopholes and consistency gaps across authentication, session handling, and data-flow layers.

AI & Analytics Lead *Jul 2026 - Present*
Take THE Cake Patisserie Ltd., New Westminster, BC (Remote)

- **Strengthened customer connection at scale by deploying an AI customer assistant across 40+ menu, order, and custom-cake inquiry categories**, handing high-touch conversations to staff for a personal moment.
- **Delivered pricing benchmarking across 15+ Metro Vancouver competitors and demand-forecasting from 12+ months of sales**, informing product-line and monthly pricing strategy.

TECHNICAL PROJECTS

QuantDash.tech - Production SaaS Platform *Apr 2026*
Python, FastAPI, PostgreSQL, Docker, Cloudflare, pytest
Production platform with secure authentication, TLS edge, and structured incident logging - live at quantdash.tech

- **Designed and operate the full security surface solo**: secure authentication, Cloudflare TLS edge, environment-isolated secrets, structured logging for incident triage, and pytest-driven regression on every push across 16+ REST endpoints over a cached PostgreSQL store.
- **Shipped Docker + Fly.io + Cloudflare CI/CD pipeline** with health-checked scheduled workers and on-call monitoring, operating the system end-to-end with no outages since Apr 2026 launch.

Math-Vision-Model - Deep-Learning Classifier *Jan 2026*
Python, PyTorch, Scikit-learn
ResNet-based image classifier for handwritten mathematical symbols across the EMNIST dataset

- **Reached 88% validation accuracy across 89 EMNIST symbol classes** on a ResNet backbone with a modified output head, data augmentation, class-balanced sampling, and Scikit-learn evaluation.
- **Built a reproducible PyTorch training pipeline** with structured experiment logs enabling rapid hyperparameter sweeps and architecture variants.