

Sam Khoshnevis

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WORK EXPERIENCE

AI/ML Intern in Design Automation

May 2026 – Present

Altera

Toronto, Canada

- Built a fully local Qwen 27B agentic search harness with vLLM serving and citation-required retrieval tools, resolving 50%+ of real internal TSMC DRC design automation support questions
- Built an MCP-backed SQL and vector search system over thousands of EDA debugging solutions, enabling 10+ design automation engineers to query institutional tool knowledge through an agent skill
- Boosted engineering productivity by orchestrating parallel Cursor agents with plan files, WhisperFlow, and Atlassian MCP to streamline implementation, documentation, and issue tracking

Machine Learning Engineer

May 2025 – Dec 2025

EarthDaily Analytics

Vancouver, Canada

- Developed a nationwide tree crown regression U-Net model for 10 proprietary satellites
- Outperformed SCANFI, Natural Resources Canada's baseline, improving wildfire behavior modelling inputs
- Used Pytorch, Docker, AWS Batch & SageMaker to run high-throughput ingestion, training and inference pipelines
- Wrote PyTest-based CI/CD tests for data ingestion, preprocessing, model training, and inference
- Collaborated in Agile workflows, joining stand-ups, sprints, reviews, and retrospectives

Software Engineer

Jun 2024 - Aug 2024

BrightChamps

Ho Chi Minh City, Vietnam

- Engineered and deployed a full-stack [Zoom call analyzer](#) using React and Flask to streamline the analysis of 1,000+ tutoring sessions
- Quantified tutor encouragement with sentiment analysis and NLP, generated session summaries with GPT-3.5, and built a curse word detection module to enhance compliance and student safety

EDUCATION

University of British Columbia

Est. May 2028

B.Sc. Computer Science 3rd Year

Vancouver, Canada

- 3.95/4 GPA
- Built a hybrid similarity search system with LLM-as-judge evaluation and LLM reranking for automated assesment generation under Prof. Oveisi with the Quesal AI team

PERSONAL PROJECTS [VIEW GITHUB](#)

[Agent Harness Lab](#) | *Python, Git, GitHub Actions, CLI tooling, PyYAML, Rich*

- Built a sandboxed evaluation harness for AI coding agents that runs agents on repository tasks, records traces, grades patches, and ranks results on a reproducible scoreboard
- Implemented strict grading for test pass rate, file-scope violations, secret leakage, budget overruns, loop detection, flaky behavior, and pass@k across repeated agent runs
- Added Agent CI workflows, regression baselines, HTML/Markdown/JUnit/SVG exports, and PR-diff grading to gate agent-generated code before merge

[Derm AI](#) | *Python, TensorFlow*

- Led a 3-member team to develop an AI-driven dermatology assistant using CNNs and GPT-3.5 for real-time conversational and image-based skin condition analysis
- Improved test accuracy by 20% through data augmentation, hyperparameter optimization and GPU acceleration
- Dockerized and deployed an API on AWS ECS with ECR, leveraging S3 and ALB for model storage and scalability

EXTRACURRICULARS

President

Sep 2023 – Present

UBC Effective Altruism

Vancouver, Canada

- Mentored 30+ students on the best ways to make a positive impact on the world
- Awarded and managed \$20,000+ in grant funding as an Open Philanthropy Fellow

TECHNICAL SKILLS

Python, JavaScript, PyTorch, Scikit-learn, LLMs, RAG, LangChain, MCP, SKILL.md, Electronic Design Automation, C/C++, Git, Docker, AWS