

Ishpreet Nagi

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EDUCATION

McMaster University

Bachelor of Applied Science, Computer Science

• Summa Cum Laude | Dean's Honor List

Hamilton, ON

Sept 2021 — May 2026

WORK EXPERIENCE

Software Engineer and Research Coordinator

June 2024 — July 2025

Healthcare Systems Research & Analysis Inc.

Waterloo, ON

- Shipped end-to-end customer-facing features, owning technical design, implementation, code review, and rollout of an ML classification product delivering **98% accuracy** in production
- Designed scalable **REST APIs** and a distributed backend pipeline in **Python** with **PostgreSQL** and **Pandas**, **scikit-learn**, **CUDA**, and **XGBoost**, **automating 90% of downstream deployment**
- Led a team of 4 engineers across 8 stakeholders, driving architecture decisions, enforcing test coverage and code review standards, and shipping every milestone on time

Machine Learning Analyst and Research Assistant

May 2023 — May 2025

McMaster University - Department of Computing and Software

Hamilton, ON

- Built an automated evaluation service under Dr. Douglas Down with **Optuna**-based hyperparameter search and **reproducible experiment tracking**, **improving F1 by 90%** over the hand-tuned baseline
- Refactored a legacy research codebase into a modular, well-tested Python package with **CI checks**, **reducing iteration time by 60%** and enabling other researchers to extend it independently

PROJECTS

Kollec App (kollec.app)

Sept 2025 — Apr 2026

- Developed a production, open-source card-collection platform end-to-end using **Next.js**, **TypeScript**, **React**, and **Tailwind CSS**, deployed on Vercel and serving **100+** real users
- Designed scalable **REST APIs** and microservices with Next.js **API routes**, **Prisma ORM**, and **PostgreSQL**, owning the backend lifecycle from schema design through deployment and query optimization
- Built a stateful peer-to-peer trade-matching engine with complex relational queries across users, collections, and offers, applying **DS&A** choices to keep response times under **100ms at scale**
- Integrated a **YOLO** segmentation model behind a REST endpoint with **embedding-based context**, automating real-time card identification at **99% accuracy**
- Owned feature delivery within a team of 7 — writing **unit tests** using **Jest** and **pytest**, **running code reviews**, and maintaining **CI/CD** pipelines with **Git**, **GitHub Actions**, and **Docker**
- Built with agentic **LLM** tools such as **Codex** and **Claude Code** APIs using prompt chaining, tool use, and structured outputs, testing adversarially for hallucination

Personal Website (ishpreetnagi.com)

July 2024 — Present

- Built a responsive single-page portfolio with **React**, **Astro**, and **Tailwind CSS**, tuned to a **95+ Lighthouse score**

Technical Executive, DeltaHacks 10 (github.com/deltahacks/landing-10)

Aug 2023 — May 2024

- Shipped the official DeltaHacks 10 site to **1000+ applicants** under a hard deadline, working with design and operations leads
- Optimized build pipeline and bundle size using **Astro** and **TypeScript**, **increasing user engagement by 25%**

SKILLS

- **Languages:** TypeScript, JavaScript, Python, Java, SQL (PostgreSQL, MySQL), HTML/CSS
- **Frontend:** React, Next.js, Astro, Tailwind CSS, Chakra UI, Material UI, Redux, ShadCN
- **Backend & APIs:** Node.js, REST APIs, GraphQL, Prisma ORM, Microservices, System Design
- **Tools & AI:** Git, GitHub Actions (CI/CD), Docker, Vercel, Supabase, Automated testing, GitHub Copilot, Claude Code, OpenAI/Claude APIs, LLM integration