

Atishaya Maharjan

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EDUCATION

BSc. Joint Hons in Computer Science & Mathematics, Minor in Statistics Aug. 2022 – Present
University of Manitoba *Winnipeg, Canada*

AWARDS

International Undergraduate Student Scholarship | Dean's Honor Roll

EXPERIENCE

Senior Software Engineer Mar. 2024 – Present
LG Electronics *Englewood Cliffs, USA (Remote)*

- Maintained and built new features for B2B microservices serving over **1000+** vendors using **Next.js**, **Redux**, and **TypeScript**, driving **25%** increase in user engagement.
- Implemented analytics and custom tagging frameworks to capture detailed performance metrics, enabling data-driven product decisions across **6+** product teams.
- Developed AI search engine for global GNB header, improving search efficiency by **40%** and reducing latency by **35ms** on average.
- Engineered promo code functionality with magic link integration and automated logic, increasing conversion rates by **15%**.

Senior Software Engineer Jun. 2025 – Jan. 2026
Hoek Insights *Amsterdam, Netherlands (Remote)*

- Built a **Python** package to embed interactive **Three.js** visualizations in **Jupyter Notebooks** via **React renderers**, cutting render time by **38%** and reducing bundle size by **25%**.
- Designed an MVP marketing platform using **FastAPI** and **PostgreSQL** with **18+** endpoints, **10** workflows, and **95%** integration-test coverage; achieved **¡200ms** median API latency in staging.

Software Engineer Aug. 2019 – Apr. 2024
Timeero *Phoenix, USA (Remote)*

- Led frontend development of mileage-tracking application using **TypeScript**, **React.js**, **Vite**, and **Mapbox**, serving **1,000+** active users.
- Implemented **15+** geo-spatial features for segment mapping, improving time-capture accuracy by **30%**.

Researcher – Algorithms & Data Structures Mar. 2024 – Present
Geometric, Approximation, and Distributed Algorithms (GADA) Lab *Winnipeg, Canada*

- Delivered **2** talks on wiggly permutations (published at CCCG Summer 2025) and space-efficient Eulerian circuits (published at SOSA 2026) at weekly GADA lab meetings.
- Developed a fast approximation algorithm for Hamiltonian path optimization in spatially embedded graphs [↗](#); built visualization and randomized test generation tooling across **100+** synthetic instances.
- Contributed to noncrossing spanning trees library, improving performance by **30%** and establishing **Python best practices**.
- Engineered hypergraph visualization tool for ML research.

Machine Learning Researcher May. 2025 - Present
Terrabyte Machine Learning Research Group *Winnipeg, Canada*

- Extended Graph Neural Diffusion architecture to Hypergraph Neural Diffusion networks using **PyTorch** and **PyTorch Geometric**, prototyping **4** model variants.
- Implemented **MLFlow** metrics and tracked **25+** experiments across **5+** datasets for reproducibility.

Researcher – Combinatorics & Graph Theory Jan. 2024 - Jul. 2025
Department of Mathematics, University of Manitoba *Winnipeg, Canada*

- Proved closed-form solution for independence number of perfect m-ary trees [↗](#) and verified Hurlbert-Kamat's Conjecture using **generating functions** and computational analysis across **1,000+** cases.

CS Help Center Leader & Teaching Assistant Jan. 2025 - Apr. 2025
University of Manitoba *Winnipeg, Canada*

- Mentored **100+** students in first to third-year CS courses and graded **150+** assignments for Analysis of Algorithms course (COMP 3170).

PROJECTS & RESEARCH

Brainstorm [🔗](#) | *Full-Stack*

- Built an AI-powered, role-specific knowledge management system (**144** commits, **4** collaborators), integrating **Pinecone**, **Jira**, **Redis**, and **PostgreSQL** with interactive charts; demoed to **7** users at Sprint to Innovate 2026.
- Implemented retrieval-augmented generation (**RAG**) with role-based access controls and grounding across **4** integrated systems to reduce hallucinations; pitched for the CIPS Manitoba Challenge.
- Built a model-routing layer with dynamic model selection and fallback policies, optimizing latency vs. quality across a multi-model LLM pool.

WinLocate [🔗](#) | *Full-Stack, Open Data, AI*

- Built a full-stack data platform leveraging **Socrata** open data and **AI** to provide city comparisons, interactive zoning maps, budget calculators, and comprehensive relocation planning for companies considering Winnipeg.
- Won **1st place** among **15** teams at the Winnipeg Open Data Datathon 2026.

Get Good Grades (GGC) [🔗](#) | *Electron.js, React, TypeScript, YAML*

- Decentralized flash card viewer that ingests **.yaml** flashcard files from anywhere in the file system, giving users full control over the scheduling algorithm.
- Pitched at DevHacks 2026.

Personal Portfolio Website [🔗](#) | *Astro, React.js*

- Terminal-style server-side rendered portfolio with interactive command spotlight feature and **15+** custom commands.
- Designed modular command routing, theming, and **6+** content sections with reusable React components.

ACHIEVEMENTS

Winnipeg Open Data Datathon 2026 | *Python, React, Socrata, AI*

- Achieved **1st place** among **15** teams with WinLocate – a full-stack city relocation data platform built on open data.

.devHacks | *React.js, TailwindCSS, FastAPI, Supabase, BERT, Neovim*

- Winner of ‘**Most Chaotic Evil Hack**’ among **20+** teams.
- Built a chatroom using websockets with a text classification Machine Learning model using **BERT** and **PyTorch** that categorizes messages (e.g., ‘brainrot’, ‘nerdy’, ‘dad joke’, etc) and provide users with in-game currency.
- Developed a **Fast API** backend with **Supabase** for persistent storage, implemented message reactions and designed a custom UI with **React.js** and **TailwindCSS** in **TypeScript**.

CSSA CTF | *C, Python, Cryptography, Ghidra*

- Achieved **1st** place among **41** teams (2026) and **2nd** place among **25+** teams (2025) at the annual CSSA CTF by solving web based CTF challenges.

Summer Undergraduate Research Experience | *C, Python, Cryptography, Ghidra*

- Achieved **3rd** place for Computational Sciences in the poster competition among **50+** students researchers.

TECHNICAL SKILLS

Languages: JavaScript, TypeScript, Python, Java, C, C++, R, SageMath, BASH, SQL

Databases: PostgreSQL, MongoDB, SQLite, MSSQL, Pinecone (Vector DB), Redis, DynamoDB

Web Frameworks: Next.js, React.js, FastAPI, Node.js, Astro

ML/Data Libraries: PyTorch, PyTorch Geometric, NumPy, SciPy, Scikit-learn, MLFlow, Pandas

Cloud & DevOps: AWS (EC2, S3), Docker, PostgreSQL, Tmux

Developer Tools: Git, Neovim, VS Code, IntelliJ, Figma, Jupyter

Specialized: AI MCPs for Application Integration, Three.js, Beamer (LaTeX)

VOLUNTEER EXPERIENCE

Events Executive | *.devClub (University of Manitoba)*

Aug. 2023 – Jul. 2024

- Co-led planning and execution of workshops, hackathons, and academic review events to enhance community engagement in the Computer Science Department at the Faculty of Science.

Coding Kickoff Facilitator | *University of Manitoba*

Feb. 2025 - Mar. 2025

- Facilitated workshops that taught **IDE setup** and **Git** to **50+** first year university students.

Audio Visual Team Member | *Bethesda Church*

Jul. 2023 – Present

- Operated Audio Visual (A/V) equipment for weekly sermons and live events, ensuring high-quality audiovisual experiences for attendees.