Atishaya Maharjan

+1 (204) 869-4659 | atishaya7777@gmail.com | Website | LinkedIn | GitHub

Education and Awards

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

International Undergraduate Student Scholarship
Dean's Honor Roll

Experience

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

- Maintaining and creating new features in microservices for LG US using **Next.js** and **Redux** with **TypeScript**.
- Integrated custom tagging frameworks to capture detailed metrics, enabling data-driven product decisions.
- Built and maintained the new B2B platform for LG US serving over **1000+** new business vendors.

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

- Developed a **Python** package to embed interactive **Three.js** visualizations for user defined images within **Jupyter Notebooks** using **React renderers**.
- Engineered a full-stack marketing platform supporting seamless order processing, shipment tracking, and checkout experience using **FastAPI**.

Undergraduate Researcher - USRA Mar. 2024 – Present
Geometric, Approximation, and Distributed Algorithms (GADA) Lab *Winnipeg, Canada*

- Contributing to novel algorithm research on **interference minimization** and **tractable solutions** to graph theoretic problems.
- Used **SageMath**, **Jupyter Notebook**, and **Python** to visualize and understand complex graph algorithms to solve the minimum non-crossing spanning tree reconfiguration problem.

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

- Extending an existing architecture for **Graph Neural Diffusion** networks into **Hypergraph Neural Diffusion** networks.
- Using **PyTorch** and **PyTorch Geometric** to test theoretical concepts to benchmark and improve models.
- Tracked and communicated experiment results using **MLFlow**, contributing to collaborative research pipelines.

Grader - Analysis of Algorithms and Data Structures Jul. 2025 - Aug. 2025
Deparment of Computer Science, University of Manitoba *Winnipeg, Canada*

- Evaluated **40+** assesments designed to test student understanding of complex algorithms and data structures.

Undergraduate Researcher Jan. 2024 - Jul. 2025
Department of Mathematics, University of Manitoba *Winnipeg, Canada*

- Hypothesized and proved a closed solution to find the **independence number** (α) of perfect binary trees.
- Proved preliminary results about the Hurlbert and Kamat's Conjecture for perfect binary trees using a variety of tools such as **generating functions**, **numerical approximation**, and **enumerative counting**.

Computer Science Help Center Leader Jan. 2025 - Apr. 2025
Department of Computer Science, University of Manitoba *Winnipeg, Canada*

- Helped **100+** students gain understanding of concepts in first, second, and third year Computer Science courses.
- Conducted sructured review classes for **COMP 1012** and **COMP 2080** students; helping them with topics such as **Python**, **Dynamic Programming**, **Greedy Algorithms**, **Computational Complexity**, etc.

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

- Led frontend development of a mileage-tracking web application using using **TypeScript**, **React.js**, **Vite**, **React Query**, **Mapbox**, **Bootstrap**, **Chakra UI**, and **Sass**.
- Supported and created over **15+** new features that mapped geo-spatial data to segments for better time capturing.

Projects

Personal Portfolio Website | *Astro, React.js, TailwindCSS, Neovim*

- Built a terminal-style interactive portfolio website which is server side rendered using **Astro**.
- Used **React.js** to make the site interactive and have a spotlight feature for user commands.

Spatially Embedded Graphs | LaTeX, *Python*

- Used **Python** to model experiments and results for constructing the Hamiltonian path that minimizes the average pair-wise distance of n points in $\mathbb{R}^2$.
- Presented findings via LaTeX **Beamer** slides in weekly research meetings to communicate with fellow researchers.

FPT Optimization for Minimizing Interference In A 1D Network | *Complexity Theory*

- Designed a **Fixed-Parameter Tractable** algorithm for interference minimization in 1 Dimensional networks; explored **NP-hardness** reductions and **approximation** techniques.

On Stars In Trees And Strongly Regular Graphs | *Sage, Graph theory, Combinatorics*

- Working on showing that **perfect k-nary trees satisfy the Hurlbert and Kamat's Conjecture** which is related to the number of independent sets, mentored by Dr. Mahsa Nasrollahishirazi and Dr. Andrii Arman to publish a journal paper.

Brachistochrone Trajectory | *Python, Numpy, Matplotlib, SciPy*

- Modeled and visualized **Bezier-approximated** brachistochrone paths in **Python** to compute and compare time-of-travel metrics.

Achievements

.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 2025 | *C, Python, Cryptography, Ghidra*

- Achieved **2nd** place among **25+** teams 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, Java, Python, C, C++, R, SageMath, BASH
Databases: MSSQL, SQLite, MongoDB, Postgres
Frameworks: ReactJS, NextJS, AstroJS
Libraries: PyTorch, PyTorch Geometric, Numpy, Scipy, SkLearn, MLFlow, Pandas
Developer Tools: Git, Neovim, Tmux, Docker, VS Code, IntelliJ
UI Tools: Figma, Adobe XD, Adobe Illustrator

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.