

Hemal Rajput

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Education

McMaster University, BEng in Software Engineering

Expected May 2027

- **GPA:** 3.73/4.0
- **Minor:** Biochemistry
- **Relevant Major Courses:** Data Structures and Algorithms, Computer Architecture, Software Engineering Practice and Experience, Intro to Software Engineering, Databases, Concurrent Systems, Software and Security
- **Relevant Elective Courses:** Natural Language Processing, Practical Bioinformatics in the Genomics Era

Work Experience

Data Scientist and Artificial Intelligence, Canadian Space Agency – Longueuil, QC

Sept 2025- Apr 2026

- Designed and implemented an LLM evaluation framework to enable automated benchmarking and visualization of model performance across multiple architectures using quantitative and qualitative metrics
- Contributed to the development of AI governance guidelines within the Canadian Space Agency, aligning internal research practices with Government of Canada responsible-AI standards
- Authored an open-source tutorial for CSA's THEMIS mission data, demonstrating end-to-end processing and analysis of auroral observations
- Developed robust ETL workflows for space-science datasets, applying best practices in data cleaning, validation, and transformation to ensure reproducibility and consistency across research projects

Software Developer, Civiconnect – St. Catharines, ON

2024

- Designed and implemented a restaurant inventory management system, improving order accuracy and streamlining the procurement process by 30%
- Developed and deployed scalable web applications for a variety of clients using a modern tech stack of React, Next.js, Tailwind CSS, and PostgreSQL-based systems such as Strapi and Supabase
- Collaborated in weekly workshops, refining technical expertise and enhancing soft skills like teamwork, communication, and project management

Summer Engineering Intern, Van der Graaf – Brampton, ON

2022-2023

- Programmed a soldering robot to automate repetitive tasks, improving soldering accuracy and efficiency
- Created and debugged CNC machine programs, enabling precise manufacturing for custom designs

Personal Projects

MidiMotion, Python

[Link to GitHub](#)

- Developed a real-time hand gesture recognition system using camera detection and MIDI signal processing to control amplifier settings on a BOSS-Katana amplifier
- Engineered seamless integration between hand gestures and amplifier controls, enabling dynamic adjustments such as volume, gain, and effects without physical interaction

SneakPeak, React Native, Python

[Link to GitHub](#)

- Trained a custom machine learning model on Hugging Face for footwear identification using image data
- Engineered RESTful APIs for image upload and identification, enabling real-time predictions on mobile

Machine-Learning Training, Python

[Link to GitHub](#)

- Trained AI algorithms like BERT and Electra on diverse textual datasets, fine-tuning them for domain-specific applications
- Conducted model evaluation and submitted algorithmic predictions to Codabench competitions, optimizing performance metrics and benchmarking results

Technologies

Languages: Java, Python, C/C++, JavaScript, SQL, MATLAB, HTML/CSS | **Frameworks & Libraries:** React, Next.js, Tailwind, Hugging Face | **Databases & Tools:** PostgreSQL, Supabase, Strapi, Docker, MLflow, Git, Quartus