Aditya Rajeev

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EDUCATION

University of Toronto — Toronto, ON
BSc in Computer Science, focus in AI and Computer Systems **(GPA: 3.97/4.0)** — *Sept. 2023 – 2026*

- **Dean's List Scholar**
- Relevant Coursework (by Summer 2025): Data Structures/Algorithms (Python), Linear Programming, Systems Programming (C/Unix), Intro to Databases, Intro to Machine Learning

EXPERIENCE

Undergraduate Research Assistant — April 2024 – Present
Vector Institute — *Toronto, ON*

- Working with Prof. Michael Brudno (University of Toronto)
- Developed image segmentation software to annotate over 2000 images for image preprocessing
- Deployed AI models capable of detecting/segmenting tubes in X-rays with **over 85% accuracy**
- Employed **generative AI techniques** to in-paint segmented areas, removing tubes from images
- Leveraged SOTA architectures like **DenseNets**, and finetuned with **LoRA** techniques

Student Researcher — May 2022 – September 2022
University of Notre Dame | Pioneer Academics

- Worked with Prof. Anthony Hoffman to explore the effects of quantum gate error on hybrid quantum ML models
- Described by Professor Hoffman as "**in the top three of undergraduate students** that I have had in class or supervised in my research" (https://bit.ly/PioneerEvaluate)
- Paper and code available at: github.com/Steelcrawler/PioneerResearchCode

PROJECTS

DeepEmotion | *Python, PyTorch, Pandas* — October 2024 - Present

- Developer for the UTMIST club on campus
- Building machine learning algorithms for continuous fMRI classification
- Project Proposal: https://tinyurl.com/DeepEmotion

Aercoustics ML Developer | *Python, PyTorch, Librosa* — October 2024 - Present

- Working with Aercoustics, a sound engineering company
- Developing ML algorithms for sound event detection
- Company information: https://aercoustics.com/

Citadel Invitational Terminal One Hackathon | *Python* — July 2024

- Selected by Citadel to participate in this competition
- Developed a competitive algorithm to play in the Terminal One competition against other entrants
- Project Repo: https://github.com/Steelcrawler/CitadelHackathon

UotT Hacks 11 | *Python, Flask, Azure, Heroku, Cohere AI, Eleven Labs, HTML, CSS* — January 2024

- Lead a team to build an AI chatbot that mimicked cartoon characters
- Collected hundreds of thousands of lines of script data to fine-tune **LLM**s with Cohere
- Project Repo: https://github.com/Steelcrawler/UofTHacks11

TECHNICAL SKILLS

Languages: Python (3+ years), Java (4+ years), SQL, JavaScript, HTML/CSS, R
Machine Learning: PyTorch, OpenCV, Diffusers, Image Segmentation, Transformers, Computer Vision
Web Development: React, Flask, Tailwind CSS, REST APIs
Developer Tools: Linux, Git, GitHub, Slurm, Azure, VSCode
Data Science: pandas, NumPy, Matplotlib, SQL, Excel
Quantum Computing: Qiskit, Quantum Machine Learning