Hetav Pandya

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EDUCATION

University of Toronto - GPA: 3.97 Toronto, CA
High Honors in Computer Engineering with Artificial Intelligence Minor Sep 2019 - May 2024
Cumulative average: 92.5%, ranked #2 in UofT Engineering in 2019-20

Linear Algebra: 99/100 | Algorithms and DS: 89/100 | Operating Systems: 89/100 | Electronics: 99/100 | Intro. to Machine Learning: 95/100 | Computer Networks: 90/100 | Software Engineering: 90/100 | Databases: 95/100

SKILLS

Programming Languages:	Python, C++, C, R, Go, Kotlin, JavaScript, Perl, TCL, Bash
Machine Learning:	TensorFlow, PyTorch, AWS SageMaker, Ollama, Docker, Kubeflow
Data Analysis:	PostgreSQL, MongoDB, MySQL, Database Design, Power BI
Productivity Tools:	JIRA, Confluence, Docker, Git, GitHub, Perforce
Additional skills:	Flask, RestAPI, Verilog, ARM Assembly, FPGA Hardware, Linux

WORK EXPERIENCE

Dept. of Mathematics, University of Toronto Toronto, CA
Teaching Assistant - TA September 2023 - April 2024

- Taught **Linear Algebra, Fundamental Calculus and Differential Equations** to engineering students at the University of Toronto.

Intel Corp. Toronto, Canada
Software Engineering Intern May 2022 - May 2023

- Developed a netlist writer in **C++** for Quartus Prime 2023 Q2 release.

- Implemented IP pin-mapping to reduce time taken to compile customer designs by 15%.

- Used profiling tools like **VTune and flamegraphs** to optimize code and identify bottlenecks.

- Worked with the router team to setup formal verification of our top model Agilex **FPGAs**.

Bell Enterprises Toronto, Canada
Data Scientist Intern May 2021 - Aug 2021

- Met with stakeholders to determine bottlenecks in performance.

- Optimized **MySQL** data queries reducing the time taken by 60% on average.

- Developed an automated production deep learning pipeline in **Python and Kubeflow** to detect potential flaws in new version releases, reducing detection time from 3 weeks to 15 minutes.

General Motors (GM) Toronto, Canada
Machine Learning Model Developer May 2021 - July 2021

- Worked on automating data collection pipeline with data pre-processing and image augmentation.

- Deployed a real-time custom **object detection model** with mean Average Precision of 0.93.

University of Toronto Toronto, Canada
Data Analyst Research Intern - Faculty of Information Jan 2021 - May 2021

- Analyzed the effects of machine learning on the future path of job creation and disruption.

- Used **Python (Selenium, Beautiful Soup)** to retrive and visualize data from multiple sources.

PROJECTS

Nash Equilibria convergence using RL *RLib, DQN, PPO, Python* · View Project
Worked with Prof. Lacra Pavel, to develop Reinforcement Learning algorithms that converge to Nash Equilibria in partial information networks in autonomous drone networks and smart power grids.

Open Hansard *Llama3, Ollama, Python* · View Project
Open Hansard is an open-source initiative to summarize the debates of the canadian parliament using state-of-the-art open-source LLMs.

PEY Door *Claude LLM, AWS SageMaker, Web Dev* · View Project
A first-place winner in AWS Student Hack, it used a Claude LLM in AWS Sagemaker to answer student's PEY related questions from the official internship reports submitted by the UofT students.

Toronto Armour *Kotlin, Jetpack Compose, Android* · View Project
An open-source android application that alerts the users when they enter neighbourhoods with high safety risks based on official Toronto police data.

E-Motion *Python, OpenCV, Selenium* · View Project
A computer vision suite that enables users to play games, read e-books and listen to music using hand gestures. It secured the second place at UofT Hacks VIII

ECE-Hustler *C language, ARM Assembly, DE1-SoC board* · View Project
In this game you are an ECE student in the 2nd year at UofT trying to dodge the hurdles we faced! It is an obstacle course compiled on our custom-built ARM processor and displayed on a VGA display.

Asphalt 9 Hands-Free Simulator *Python, OpenCV* · View Project
This project is about creating a gaming interface that allows the user to control and play games solely using hand gestures. A demo test was done on the game - Asphalt 9

Magnum Opus *Python, Neural Style Transfer, OpenCV* · View Project
My personal journey of finding "art in mathematics" and "mathematics in art".

Extra Curriculars

GitHub Education Program   Toronto, CA
GitHub Campus Expert   September 2022 - Present
- Selected as one of the **65 global campus experts** in the 2022 cohort. Organized many open-source workshops and the first Github Field Day in Canada.

UofT Machine Intelligence Student Team   Toronto, CA
Co-President   July 2021 - July 2022
- Managed a club with **2000+ active members** and collaborated with different organizations like the Eng. Hatchery, UCL AI Society, AI@MIT, Harvard Open Data Project and many more.

UofT Engineering Society   Toronto, CA
ECE Board of Director Representative   April 2022 - April 2023

- Elected to represent **700+ students** in the student-run UofT Engineering Society. I collaborated with other representatives to make executive decisions that offers services to **6000+ students**.

Awards

AWS Student Life Hacks - First Prize	March 2024
Moral Code Hackathon - Third Prize	March 2022
Microsoft Discover AI Challenge on AI Ethics - First Prize	June 2021
UofT Hacks VIII - Second Prize	Feb 2021
Edward S. Rogers Dept. of Computer Eng. Top Student Award	Sept 2020
Wallberg Undergraduate Scholarship Award	Sept 2020
Hack The Virus Hackathon Winner	Aug 2020
UofT NSBE Hacks - Second Prize	Feb 2020
Bloomberg Hack Winner	Feb 2020
University of Toronto International Scholar's Award Scholarship	May 2019