Arnav Patil

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Education

University of Toronto Ongoing – Apr 2027
BASc. in Electrical and Computer Engineering *Toronto, ON*

- **Double Minor in Artificial Intelligence and Engineering Business**
- **CGPA: 3.53/4.00 with recognition on Dean's Honours List**
- **Extracurriculars:** University of Toronto Engineering Society, IEEE U of T Student Branch
- **Competitions:** MLH MakeUofT 2024, ISTEP Clarke Environmental Design Challenge 2024

Technical Skills

Languages & Tools: C/C++, Python (NumPy & pandas), Verilog, MATLAB, Git, LaTeX
Software Courses: Computer Fundamentals, Programming, Object-Oriented Programming, Software Design
Hardware Courses: Electronics, Digital Systems Design, AC/DC Circuit Analysis, Electric and Magnetic Fields
Math Courses: Multivariable Calculus, Complex Analysis, Applied Linear Algebra, Differential Equations

Experience

Sustainability Director Apr 2024 – Ongoing
University of Toronto Engineering Society *Toronto, ON*

- **Organized and oversaw 5+ projects** to achieve directorship goals, from policies on a waste-free orientation, to fossil fuel divestment for design teams, and reducing the Engineering Society's footprint.
- Negotiated with stakeholders within EngSoc and the Faculty to place a greater **emphasis on sustainability in engineering curricula**, impacting more than 1400 first-year students and thousands more upper-year students.
- Drafted a new club constitution, including a proper **organizational structure**, a continuity plan, and **accountability measures** (internal and external reports) to ensure long-term growth of the Directorship.

Marketing Strategies Director May 2024 – Ongoing
IEEE University of Toronto Student Branch *Toronto, ON*

- Defined marketing strategy and guidelines for **4 flagship events** with attendance **upwards of 300 participant**s, using media insights and analytics to identify areas of strength and growth to reach target audience.
- Encouraged and embraced a new club philosophy to appeal to students in **all STEM and engineering disciplines**, and emphasized this perspective in our in-person and social media advertising campaign.

First Year Industrial Engineering Representative Sept 2023 – Sept 2024
University of Toronto Engineering Society *Toronto, ON*

- Represented the concerns and interests of **70+ Indy students** as a liaison between students, the Engineering Society, the Industrial Engineering Club, and the Faculty of Applied Science and Engineering.
- Collaborating with EngSoc & Faculty members such as the Vice-President Academic, Vice-Dean First Year, and groups of professors to develop solutions enhancing **more than 1400 first-year students'** academic experience.

Selected Projects

Static Personal Website with Hugo | Personal Portfolio Website Jun 2024 – Ongoing

- Customized a Hugo template to **create a static portfolio website**, showcasing coursework and achievements, and implemented custom themes and optimized structure for user-friendly navigation, enhancing accessibility.
- Deployed the site on GitHub Pages using a **continuous development pipeline** integrated into the repository through GitHub Actions, automatically rebuilding and redeploying the site after each push.
- Integrated Google Analytics 4 into the site to track insights and analyze which course pages are most popular.

Deep Learning Framework with NumPy | Neural Network from Scratch May 2024 – Jun 2024

- Created a modular deep neural net framework from scratch using NumPy, and documented mathematical derivations of **forward pass**, **gradient descent**, and other relevant components.
- Solved the XOR using a network with two linear layers with **ReLU activation & MSE backprop** functions.

Python Implementation of the Shortest Path Problem | Dijkstra's Algorithm Jun 2024

- Documented my understanding of **Dijkstra's algorithm** and provided an example for the user to follow along.
- Implemented the algorithm in **modular Python code**, and added user-friendly functionality, resulting in a user-friendly process to create a graph with weighted paths and returns results in a procedural manner.