# 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**
- **GPA: 3.9/4.0 with Dean's Honours List**
- **Extracurriculars:** IEEE UofT Student Branch, University of Toronto Engineering Society
- **Competitions:** MakeUofT 2024, Clarke Environmental Design Challenge 2024

## Technical Skills

**Languages & Tools**: C/C++, Python (NumPy & pandas), Verilog, Assembly, MATLAB, Git, LaTeX
**Software Courses**: Computer Fundamentals, Object-Oriented Programming, Software Design and Communication
**Hardware Courses**: Circuit Analysis, Electronics, Digital Systems, Computer Organization, Signals and Systems

## Experience

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

- Led a team of 7 executive members and a cohort of associates to bring directorship goals to life.
- Envisioned 6 projects to establish new policies surrounding sustainable practices and fossil fuel divestment.
- Major initiatives to include sustainable curriculum could impact 1400+ first-years across 8+ courses.

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

- Responsible for defining marketing strategy for 4 flagship events with attendance upwards of 300 participants.
- Establishing market insights and analytics to identify areas of strength and growth to reach target audience.
- Running all IEEE UofT social media platforms (Instagram, LinkedIn, etc.) and event-specific social media.

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

- Representing the concerns and interests of 70+ Indy students as a liaison between students and EngSoc.
- Collaborating with EngSoc members and working towards solutions to enhance students' academic experience.
- Developing and implementing strategies that contribute to the growth and success of 1400 first-year students.

## Selected Projects

**Static Personal Website with Hugo** | Personal Portfolio Website Jun 2024 – Jul 2024

- Developed a static personal portfolio website using Hugo, showcasing my coursework and achievements.
- Implemented custom themes and optimized structure for user-friendly navigation, enhancing accessibility.
- Utilized Git for version control and deployed the site on Github Pages using a continuous integration pipeline.
- Converted hand-written course notes into LaTeX using Overleaf to publish on my website.

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

- Created a modular deep neural net framework from scratch using NumPy.
- 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 backpropogation functions.

**Python Implementation of Dijkstra's Algorithm** | 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.
- User-friendly process creates graph with weightings and returns algorithm results in a procedural manner.
- Provided basis for a new project to implement the Bellman-Ford algorithm to account for negative path weights.