Ishika Mittal

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Education

University of Toronto **Sep 2021 – May 2025**

Bachelor of Applied Science: ***Computer Engineering****, Minors: -* ***AI*** *and* ***Business*** *Toronto, Canada*

Awards: **Stanford Hackathon Winner, Cansbridge fellowship** - Granted to the top 15 young Canadian students, accompanied by a scholarship and the invaluable chance to undertake internships in Asia.

Experience

Amazon Robotics - Software Engineer Intern **Sep 2024 - Jan 2025**

- Developed internal service tool - **StowVis** for Robotics team to track station's summary and allocated pods.
- Using **Java** and **Kotlin** for software development and making the stowing process efficient by **10%**

FlicFit, Japan - AI/ML Engineer Intern **May 2024 - August 2024**

- Developed an **AI model** for predicting dementia MOCA score using gait analysis from insole foot data of **950 patients**, applying **Scikit-learn** and **Matplotlib** for movement data analysis in healthcare applications.
- Led a **C# Unity-based** gaming project that reduced real-time shoe data transfer from **4 seconds** to **0.5 seconds**, improving avatar movement and significantly enhancing the player experience.

NOKIA - SDN and Automation Engineer Intern **May 2023 - Dec 2023**

- Created an automation platform through API implementation using **FastAPI, Golang API**, **Bootstrap**, **Docker**, **HTML**, and **Python**, resulting in a remarkable **95%** efficiency gain
- Reduced infrastructure preparation time from **weeks** to **15 minutes**, enhancing the customer experience and enabling quicker product demonstrations
- Integrated **ESLint** for rapid issue detection and code quality improvement, reducing review times by **60%**

Research Position – Under Prof. Xilin Liu at University of Toronto **April 2022 - Sep 2022**

- Developed a tool that can track animal behaviors in real-time for **closed-loop neuromodulation** and ran on **Raspberry Pi4**.
- Implemented training dataset using **DeepcutLab**, **Any-maze software** aiming to deliver in-demand stimulation based on the real-time status of the animals, thus increasing clinical efficiency by **15%**

University of Toronto Engineering Academy - Programming Mentor **May 2022 - Sep 2022**

- Conducted lectures for more than **200** engineering students in programming languages **C** and **Python**
- Carried out mentorship activities to make programming concepts easy and interactive

Projects

"Memora," AI-powered companion | ***Python & Flask, OpenAI, Resemble AI, OpenCV, MediaPipe*** **October 2024**

- Developed an AI-powered companion that simulates conversations using loved ones' voices, tone and memories, fostering cognitive engagement and reducing loneliness.
- Implemented a **Flask-based backend**, **OpenAI language models**, and **Resemble AI** voice cloning to create authentic, personalized interactions grounded in real, shared histories.
- Integrated daily exercise challenges with posture correction through OpenCV and MediaPipe, promoting physical movement and holistic well-being.

Random Route Generator web app | ***Google Maps API, CSS, React, Google Cloud, Java Script*** **Oct 2022**

- Led a cross-functional team of four during the Newhacks Hackathon, to develop a dynamic web application, implemented a feature using the **Google Maps API**, enabling the generation of new and engaging walking routes based on the user's location and preferences, enhancing the overall user experience.

Artificial intelligence for Reversi Game | ***C programming, Iteration and Minimax algorithm*** **March 2022**

- Developed reversi board game for single and two players modes that can predict 15 moves deeper in under **1** second
- Ranked **1st** place on the course leaderboard by making efficient and successful code among more than **450 students**

Computer Vision Developer | ***University of Toronto Robotics Association*** **Oct 2021 - 2022**

- Worked with a team of 15 members on determining and implementing an optimal **CV model** for the detection, classification, and tracking of tasks reflecting the ability to work in a fast-paced environment and thrive working with others
- Performed Data labeling for **3000** images for a CV to recognize common roadway items and lanes

Geographic Information System (GIS) Software | ***C++, STL, Open Street Map API*** **January 2023**

- Developing Map software in a team by utilizing **APIs**:- Open Street Map and Streets database to fetch data and organizing it into appropriate data structures for best performance, using **C++, STL**
- Enhanced search efficiency by **80%** through the implementation of algorithms and **multithreading** techniques