

Darsh Shah

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Education

University of Waterloo

Sep. 2023 – Present

Bachelor of Software Engineering, Co-op | **3.93 GPA**

Waterloo, Ontario

- Guo Family Engineering Scholarship and President's Scholarship of Distinction
- Relevant Coursework: Intro to Data Structures and Algorithms, Data Abstraction and Object-Oriented Programming, Methods of Software Engineering, Linear Algebra, Linear/Digital Circuits

Skills

Languages: Python, C, C++, JavaScript, SQL, PHP, HTML/CSS


Frameworks/Libraries: React, Flask, OpenCV, NumPy, NLTK, TensorFlow, Pandas, scikit-learn, Bootstrap, Bulma

Tools: Git, Bash, Docker, AWS, GraphQL, MySQL, Power BI, Figma, Jupyter Notebook, Firebase, Heroku, Arduino, Linux

Experience

Software Developer

May 2022 – Aug. 2022

Nu Vision Metals 

Scarborough, Ontario

- Boosted **website traffic by 27%** through a site revamp, incorporating UI/UX research and industry metrics analysis
- Reduced **deployment time by over 50%** via a GitHub Pages CI/CD pipeline for streamlined version control
- Achieved a **24% reduction in bounce rate** through A/B tested cross-platform wireframes with Figma and CSS

Programming Instructor

Sep. 2022 – Sep. 2023

City of Brampton

Brampton, Ontario

- Proctored assessments for **50+ students** and designed an easy-to-follow curriculum for an Introduction to Python course
- Created **10 theory-based projects** for a hands-on learning experience, achieving a **96% participant satisfaction**
- Evaluated **500 code submissions** with **PyTest** for automated testing, ensuring adherence to project requirements

President

June 2022 – June 2023

WolfHacks


Brampton, Ontario

- Led **25+ members** in a cross-functional team to organize the largest hackathon in the Peel District School Board
- Secured **over \$50,000** in funding from Rogers and the CSA by crafting and presenting compelling sponsorship proposals
- Coordinated prizes, merchandise, and venues for **800+ participants**, growing interest in the SciTech program **12% YoY**

Projects

Vibe  | Python, React, NumPy, Transformers, Whisper API, Spotify Web API

- Integrated the **Whisper API** and **Twitter RoBERTa** sentiment model for an audio-based mood detection platform
- Engineered a **data pipeline** with HTTP methods to transmit analysis results for scalable client-server communication
- Launched a **React app** that recommends mood-personalized playlists from over **100M songs** via the Spotify Web API

DetectGPT  | Python, HTML/CSS, Flask, PyTorch, spaCy, GPT-2

- Developed a **LLM-content detector**, incorporating **NLP techniques** to detect AI-generated text with **87% accuracy**
- Calculated sentence perplexity by comparing **GPT-2** next-word predictions with inputted text to quantify text variability
- Evaluated burstiness by calculating perplexity deviation across sentences, **reducing detection error by 21%**
- Deployed **Flask server** to handle requests between the web UI and Python-based backend, ensuring a seamless UX

ASL+  | Python, Tensorflow, OpenCV, Jupyter Notebook

- Built an ASL interpreter with a **500 image dataset**, optimizing data preprocessing with the **SSD MobileNet platform**
- Implemented transfer learning with the TensorFlow Object Detection API and OpenCV, achieving an **accuracy of 82%**
- Enhanced ASL recognition by **training a supervised model** on the alphabet and daily phrases, increasing accessibility

Awards

Recipient | Governor General's Academic Medal: *Government of Canada*

June 2023

Recipient | Science and Technology Award: *SciTech North Regional Program*

June 2023

Semi-Finalist | Loran Scholarship: *Loran Scholars Foundation*

Oct. 2022