Darsh Shah

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Education

University of Waterloo
Sept 2023 – Present

Bachelor of Software Engineering, Co-op
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, Intro to Computer Architecture

Skills

Languages: Python, JavaScript, TypeScript, C++, C, C#, SQL, HTML/CSS
Frameworks/Libraries: React.js, Angular, ASP.NET, Node.js, Flask, OpenCV, NumPy, TensorFlow, Pandas, Bootstrap
Tools: Git, Bash, Docker, Azure, GraphQL, MySQL, Figma, Jupyter Notebook, Firebase, Arduino, Linux

Experience

Software Developer Intern
May 2024 – Aug 2024

ComputerTalk
Thornhill, Ontario

- Created a client reporting system that logs message and call history with Angular and C#, improving data accessibility
- Resolved critical bugs on the Journal page related to file hierarchy parsing, correcting the display of LOB entries
- **Generated reports 22% faster** by replacing SAP with Telerik UI, upgrading company-wide reporting architecture

Firmware Developer
Apr 2024 – Present

UW Orbital
Waterloo, Ontario

- Executed a thermal management task in C using a queue to prioritize cooling actions based on real-time sensor inputs
- Implemented interrupt-driven overheat shutdown with the LM75BD sensor, triggering safety protocols to prevent damage
- Decreased **task execution time by 30%** using FreeRTOS to schedule firmware tasks for concurrent sensor data processing

Software Engineer Intern
May 2022 – Aug 2022

Nu Vision Metals
Scarborough, Ontario

- Boosted **website traffic by 27%** through a site redesign that incorporates 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 designs with Figma and CSS

Projects

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

- Built a mood detection platform that transcribes audio clips and performs sentiment analysis to evaluate emotion
- Designed a data pipeline to handle real-time, scalable analysis results for seamless client-server communication
- Launched a React app that recommends mood-personalized music playlists from over **100M songs** via the Spotify 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%**

Trader Dashboard | *Python, TypeScript, HTML/CSS, Perspective*

- Predicted potentially misvalued stocks using historical correlation in the J.P. Morgan Software Engineering Experience
- Displayed clear and visually appealing live graphs using the Perspective library to display data for traders to monitor
- Developed a data processing pipeline using Python and Pandas, resulting in efficient analysis of large financial datasets

Leadership

President
Jun 2022 – Jun 2023

WolfHacks
Brampton, Ontario

- Led **26 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**