Parsa Ghiasian

+1 519-496-9775 | parsaghiasian.com | LinkedIn | GitHub

Education

University of Waterloo **Waterloo, Ontario**

Bachelor of Computer Science, Honours Co-op, Software Engineering Specialization *Expected May 2027*

- President's Scholarship of Distinction and Microsoft Entrance Scholarship
- Relevant Coursework: Data Structures and Algorithms (C++), Object Oriented Programming (C++), Database Management (SQL, Java), Operating Systems (C), Tools for Software Development (Linux), Cryptography (Python)

Skills

- **Languages:** Python, Java, HTML, CSS, JavaScript, TypeScript, SQL, C/C++
- **Frameworks/Libraries:** React.js, Next.js, TailwindCSS, TensorFlow, Keras, Pytorch
- **Applications:** GitHub, Docker, dotCMS, Jupyter Notebook, Figma, Replit, Cursor, Mixpanel, Firebase, Supabase, AWS, Azure Data Studio, Git

Experience

Software Developer **Toronto, Ontario**

University Health Network *May 2025 – Aug 2025*

- Developed the Research and Private Employee Web Applications through **dotCMS**, using Javascript, React and TailwindCSS for the frontend and Django (Python) for the backend.
- Implemented **REST APIs** for researcher data retrieval from a **PostgreSQL** database hosted in **Azure Data Studio**, resulting in **30%** faster data loading.
- Designed and implemented a website-wide semantic search system for the internal self service intranet using **Retrieval-Augmented Generation** with Pinecone vector database services, combining embeddings-based vector search for document retrieval with OpenAI GPT-4o integration, improving retrieval relevance across 1,000+ entries.

Software Engineer **New York, New York**

Unrepped, Inc. *Sep 2024 – Dec 2024*

- Developed the web app for the Unrepped home buying assistant using **Next.js, Typescript and TailwindCSS**.
- Designed **REST APIs** to collect real time real-estate data, lowering the average server response time by **40%**.
- Implemented a secure authentication system for subscription, payment and login using Supabase's **PostgreSQL** database and **Firebase**'s authentication APIs.
- Tracked user activity through **Mixpanel** integration, allowing user traffic optimization by the marketing team and leading to over **10000** app downloads and a **87%** retention rate.
- Wrote **300+** unit tests to ensure user-interface optimization across multiple devices and use cases.

Projects

LooLines **Dec. 2024**

- Led the architecture and backend development for a full-stack web-app to estimate the wait times at various food establishments at UWaterloo using **Bluetooth RSSI** device detection.
- Achieved **89% accuracy** in real-time wait time estimation, enhancing user experience at campus eateries.

DetectGPT **Jul. 2023**

- Developed an 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 variability.
- Evaluated burstiness by calculating perplexity deviation across sentences, reducing detection errors by 21%.

Tetris Game Engine **Jan. 2024**

- Implemented a multi-feature variation of Tetris supporting human-human and human-computer games.
- Trained a model using PyTorch to classify skill-levels of players based on game performance and generated appropriate difficulty levels accordingly.
- Applied industry standard **C++** object oriented programming, modularizaton, testing and design patterns.

Leadership

- **University of Waterloo Tutoring -** Tutored first and second year students in calculus and linear algebra courses.
- **Athletics -** Obtained competitive Intramurals championship for Volleyball and Soccer.
- **Volunteer Work -** Computer Science and Data Science club executive, science and mathematics instructor at cultural Saturday school.