Parsa Ghiasian

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Education

University of Waterloo **Waterloo, ON**

Bachelor of Computer Science, Honours Co-op, Specialization in Artificial Intelligence *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, JavaScript, TypeScript, SQL, HTML, TailwindCSS, C/C++, Assembly
- **Frameworks/Libraries:** Node.js, React.js, Next.js, AWS, Git, Firebase, TensorFlow, Keras, Pytorch
- **Applications:** GitHub, Docker, Jupyter Notebook, Figma, Replit, Cursor, Mixpanel

Experience

Software Engineer **New York, New York**

Unrepped, Inc. *Sep 2024 – Dec 2024*

- Developed the startup's responsive web app using **Next.js**, **Typescript** and **TailwindCSS**
- Designed **RESTful APIs** to collect real time real-estate data, lowering the average server response time by **20ms**
- Implemented a robust and secure authentication system for subscription payment and login using Supabase's **PostgreSQL** database and **Firebase**'s authentication and password hashing services
- Incorporated a tracking system with Mixpanel and Google Analytics, allowing user traffic optimization by the marketing team and leading to over **10000** user app downloads and a **87%** retention rate
- Performed **345** comprehensive unit tests to ensure user-interface optimization across multiple web browsers and mobile apps

AI Software Engineer **Waterloo, ON**

iGEM Design Team *Jan 2024 – Apr 2024*

- Utilized patients' health insurance claims data and **Python** to design a **TensorFlow**-based machine learning model, achieving 90% accuracy in predicting the likelihood of patients requiring emergency room services.
- Leveraged **SQL** to merge diagnosis and services datasets which were used as training data for the model.
- Built a **React** and **JavaScript**-based platform that displays healthcare statistics and gaps, such as patients not reporting medication usage and refills, to gauge NY patients' adherence to their provider's medical advice.

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 an **RNN** using PyTorch which classified 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

Store sales Time Series Forecasting Project **December 2023**

- Designed, trained and published an open-source model which accurately predicts the total sales for different Favorita stores in Ecuador given location, oil prices, item types sold and several other parameters using Time-Series Forecasting
- Placed in the **99th percentile** of competitors in quality of presentation and accuracy determined against testing dataset