

# PARSA GHIASIAN

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## Education

### University of Waterloo

*Bachelor of Computer Science, Honours Co-op*

Waterloo, Ontario

*Expected Apr 2027*

- **Relevant Coursework:** Object Oriented Programming (C++), Database Management (SQL, Java), Operating Systems and Concurrency (C/C++), Tools for Software Development (Linux), Computer Networks (Python, C++), Distributed Systems, Graphics Programming (OpenGL/CUDA), Cryptography

## Experience

### Software Engineer

*TextNow*

Waterloo, Ontario

*Jan 2026 – Apr 2026*

- Developed features for the legacy **PHP** monolith and **Go** microservices for user upgrades features, as well as **Terraform** for configuring system infrastructure and monitoring alerts
- Architected and implemented a scalable and fault tolerant request queueing system for a partnership project with CVS with **SCS** and **gRPC**, leading to an **87%** decrease in latency in the **iOS** and **android** API requests
- Streamlined deployment using **ArgoCD**, **AWS** and Github Action **CI/CD pipelines**
- Wrote over **300** unit tests and **50** integration tests across 20 microservices within the product platform, and monitored **Datadog** metrics and **OpenSearch** logs for consistency and error prevention during deployments

### Software Developer

*University Health Network (UHN)*

Toronto, Ontario

*May 2025 – Aug 2025*

- Migrated and developed new features on the Research and Private Employee Web Applications using **dotCMS**, leveraging Javascript, React and TailwindCSS for the frontend and **Django** 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 GPT-4o integration, improving retrieval relevance across 1,000+ entries.

### Software Engineer

*Unrepped*

New York, New York

*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 through, payment and login using Supabase's **PostgreSQL** database, **Firebase**'s authentication APIs, and **Stripe**'s built in third party **SDKs**
- 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. 2024

- 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, modularization, test suites and software design patterns.

## Skills

- **Languages:** Python, Go, Rust, C/C++, JavaScript, SQL, PHP, Terraform
- **Frameworks/Concepts:** gRPC, React, Next.js, TailwindCSS, TCP/UDP
- **Applications:** GitHub, Docker, Kubernetes, dotCMS, Figma, Replit, Cursor, ArgoCD, Mixpanel, Datadog, Firebase/Supabase, AWS