ARIAN EMAMJOMEH

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Education

University of Waterloo — 3.82/4 GPA   **Sep. 2025 – April 2030**
Bachelors in Computer Science   *Waterloo, On*

Experience

Harvard Medical School Research Study   **Sep. 2024 – Present**
Research Lead
- Conducted a research study on the effects of social media on adolescent behaviour and sleep quality under the guidance of Amirreza Haghighi, lecturer of medicine at **Harvard Medical School**.
- Surveyed **150+ students** from Iran and Canada to collect and analyze data to construct a reputable research paper.
- Compiled and visualized key findings using graphs and trend analyses to highlight links between screen time, anxiety, and sleep duration.

Prohome Consulting Inc.   **July 2023 – Aug. 2025**
Architectural Firm Associate   *Markham, On*
- Managed the construction and renovation of **20+ properties**, boosting client satisfaction and 5 star ratings by 33%.
- Supervised cross-functional teams and liaised with clients to align renovation goals, and budgets across projects.
- Conducted administrative tasks, including software engineering, file management, data entry, and scheduling.

Projects

GitHub Secret Scanner & Security Analysis Tool | *Python, Gemini API, Github API, Entropy Analysis*
- Developed Python-based security scanner analyzing GitHub commit history for **leaked credentials** via GH Archives.
- Built a scalable data pipeline **processing 24+ hours of commit history** (1 million+ events) .
- Used program to notify users with found secrets, **alerting 500+ people of security flaws** within their repository.
- Built entropy-based detection algorithm using Shannon entropy to **identify 2000+ unknown secret patterns**.
- Created LLM-integrated false-positive filter **reducing false positives by 90%+ with Gemini API**.

Medical Simulation Platform | *NextJS, TypeScript, FastAPI, Gemini API, Supabase, SQLite*
- Developed a medical education platform **using NextJS, enabling patient simulation** and diagnostic assessment.
- Built a preload utility to ingest and pull from **150+ patients randomly using SQLite**.
- **Engineered a FastAPI backend** with endpoints for data operations and user authentication using **Supabase**.
- Used **Gemini API** to simulate patients, process chat context/final diagnoses to compute scores, and deliver feedback.

WatsApp (Course Community App) | *Expo, React Native, Supabase, TypeScript*
- Built a mobile-first study hub where Waterloo students join course chats, share attachments, and manage study groups via **Supabase realtime messaging and storage**.
- Designed polished UX, profile customization, Instagram links, threaded replies, to mirror modern chat apps.
- Implemented secure **auth and data flows with Supabase** (profiles, RLS policies, edge triggers), and **wired Expo push-ready architecture** for future mobile notifications.

Technical Skills

Programming Languages: Python, Java, JavaScript, TypeScript, Racket, HTML/CSS
Frameworks/Tools: Git, React, NextJS, Expo Go, FastAPI, Supabase
Languages: English, French, Farsi

Leadership / Extracurricular

Tutoring Club President   **May 2023 – June 2025**
- Created an algorithm to pair tutees and tutors, **helping 120% more students find a tutor** throughout the year.
- Organized weekly tutoring sessions and helped grow the club **from 100 to 500+** tutors and tutees.

School Council Treasurer   **May 2024 – June 2025**
- Created and tracked a budgeting plan of **$45,000** using Excel to be used throughout the school year.
- Led a team of student council members to plan and execute school-wide initiatives for **1200+ students**.