

ARSHIYA KHAYATZADEH

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EDUCATION

University of Toronto

Expected May 2029

Bachelor of Arts and Science in Computer Science Co-op

- **Relevant Coursework:** Introduction to Computer Science II (CSCA48), Computer Organization (CSC258), Software Design (CSCB07), Theory of Computation (CSCB36), Linear Algebra I & II (MATA22, MATB24), Multivariable Calculus (MATB41), Probability (STAB52)

EXPERIENCE

Software Developer Intern

Aug. 2026 to Present

Oneiral

Toronto, Canada

- Building the **MVP** of a browser-based CPR posture evaluation tool on top of **MediaPipe** pose estimation, tracking real-time elbow angle, compression rhythm, and compression depth, with continuous feedback and a 30-second sustained-form completion check.
- Tested by **10+ instructors** and **100+ trainees** at a partner organization, iterating on metric accuracy from their feedback.
- Built the supporting database schema, backend API, and frontend integration for the MVP.

Developer, Machine Learning Team

Sept. 2026 to Present

CREATE UofT

Toronto, Canada

- Part of a 6-person team building a karaoke coach app that predicts how accurately a singer will perform each phrase of a song and recommends the best key to sing it in.
- Pipeline uses **Demucs** vocal separation, **CREPE** pitch tracking and **DTW** alignment to label recordings, with **XGBoost** and sequence models planned, pretrained on public karaoke data and fine-tuned on team recordings.

Automation Developer Intern

Jan. 2026 to Feb. 2026

Centrilogic

Toronto, Canada

- Built a **CrewAI** pipeline integrating **ServiceNow** and **LogicMonitor** to automate ticket triage and assignment, classifying tickets by severity and routing them to the right team, tested on a daily mix of **~5 critical, 20+ high, and 100+ low-priority tickets**.
- Accelerated incident response by leveraging the **ServiceNow** and **LogicMonitor REST APIs** to programmatically fetch real-time alerts and trigger Windows desktop notifications.

TECHNICAL PROJECTS

orbital-sim | [GitHub](#)

(Python, NumPy, Matplotlib, JPL Horizons API)

Aug. 2026

- Built a Newtonian N-body gravity simulator from first principles (no physics engine), implementing and analytically validating $\vec{a} = -GM\hat{r}/r^2$ in AU/solar-mass/year units.
- Rigorously compared three numerical integrators (forward Euler, symplectic Euler, RK4) against energy and angular momentum conservation, discovering forward Euler ejects Earth from the solar system at coarse timesteps while RK4 exhibits secular drift that symplectic Euler avoids.
- Extended to true N-body dynamics with a moving Sun, seeding it with real solar system data from **JPL Horizons** and validating simulated planetary positions against ground truth.

DevPulse | [GitHub](#)

(TypeScript, Hono, React, PostgreSQL, AWS)

June 2026

- Developed a full-stack “Spotify Wrapped for GitHub” app with GitHub OAuth and session-based auth, analyzing **3,000+ commits from 42 users**.
- Deployed to **AWS (S3 + CloudFront + Elastic Beanstalk)** with cross-domain HTTPS cookies, resolving browser **SameSite** security constraints across two separate domains.

SmallBizClaw | [GitHub](#)

(JavaScript, Express, PostgreSQL, Drizzle ORM, OpenClaw API)

May 2026

- Built a multi-tenant AI business assistant on **OpenClaw**, letting owners log sales, expenses, and reminders through Telegram in natural language.
- Piloted with **6 local small businesses**, all of whom reported the tool made their work **~80% easier** and left them **~2x more organized**; one business logged **264 entries in a single month**.
- Designed a **PostgreSQL** database schema with **Drizzle ORM** supporting multi-business tenancy, with API key authentication to isolate each business’s data.

TECHNICAL SKILLS

Languages: Python, JavaScript, TypeScript, Java, C, C++, SQL, HTML, CSS

Frameworks: FastAPI, Express.js, Node.js, React, Hono, Tailwind CSS, Spring Boot, Drizzle ORM

Technologies: MediaPipe, Gemini API, CrewAI, OpenClaw, REST APIs, ServiceNow REST API, LogicMonitor REST API, PostgreSQL, AWS (S3, CloudFront, Elastic Beanstalk), NumPy, Pandas, Matplotlib

Developer Tools: Git, GitHub, VS Code, Vite, Pnpm