

Karar Al-Shanoon

karar.alshanoon@usask.ca | 306-251-1348 | LinkedIn: [kararalshanoon](#) | GitHub: [kararAcode](#)

EDUCATION

University of Saskatchewan

B.Sc. in Computer Science

Saskatoon, Saskatchewan

Expected May 2027

- **Dean's List (2023/24)**
- **GPA: 3.75/4.0** across CS courses

EXPERIENCE

University of Saskatchewan

Software Developer

Saskatoon, Saskatchewan

May 2025 - Present

- Designed and implemented a distributed job scheduler with BullMQ and Redis, deploying GPU workers across multiple machines to support large-scale image analysis (~**20,000** images) while keeping the API responsive.
- Implemented a Redis caching layer to optimize gallery performance, cutting load times by **9×** for datasets of ~**20,000** images.
- Containerized the application with a multi-stage Docker build and Docker Compose, eliminating environment-related errors and enabling reproducible deployments across staging and production.
- Created and configured a CI/CD pipeline with staging and production workflows, automating deployments to reduce developer effort by ~**80%** and minimize production errors.

University of Saskatchewan

Teaching Assistant

Saskatoon, Saskatchewan

Sept 2024 – Dec 2024

- Led tutorials to clarify key concepts, answered student queries, and provided additional support through one-on-one guidance
- Provided additional exercises and practice problems to reinforce concepts of the course material
- Guided students through the installation, configuration, and troubleshooting of the course-required Integrated Development Environment (IDE), ensuring a smooth setup process for coursework.

Code Ninjas

Lead Sensei

Saskatoon, Saskatchewan

Jul 2023 – Sept 2025

- Built a custom Electron wrapper for the student activity platform, enabling plugins to restrict off-task behaviours (e.g., sprite drawing) and reducing student interruptions by ~**50%**, which improved focus and saved instructors time.
- Adapted to different programming languages and tools (Lua, C#), picking up syntax and concepts quickly in order to guide students through projects and provide support with problem-solving.
- Guided **25+** students weekly through coding fundamentals and hands-on projects, helping them apply new skills to complete games and applications with greater independence.

PROJECTS

Shai Extension

- Developed and deployed a Chrome extension with AI-powered chat, real-time WebSocket communication, and text-to-speech features, reaching over **2,500 weekly users**.
- Implemented WebSocket support for AI responses, prompt tracking, and text-to-speech streaming, enabling real-time interaction and subscription-aware features in the extension.
- Built a backend with Express.js and MongoDB to handle user authentication, subscription tracking, and secure payment processing with Stripe.

Jewel

- Collaborated in a team of 5, taking primary responsibility for backend data flows, including building a Next.js + Supabase authentication system with email-based OTP verification.
- Developed a modular API layer in Next.js with Supabase integration, supporting journal tracking, goal retrieval, and other core features.
- Designed and implemented Supabase database schema and queries to manage user profiles, journal entries, and related application data securely.

SKILLS

Programming Languages: Javascript/Typescript, Python, SQL (Postgres), HTML, CSS, Java, C

Frameworks & Libraries: Nodejs, Reactjs, React Native, Supabase, Nextjs, Svelte, SvelteKit, Shadcn, Prisma, ExpressJS, BullMQ, Electron

Tools: VsCode, IntelliJ, PyCharm, Docker, Git, Expo, Postman, Redis, Ansible, GitLab CI/CD

