

Shane Edelstein

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EDUCATION

University of Western Ontario

Honors Specialization in Computer Science (BSc)

London, ON

Expected April 2027

- Courses: Operating Systems, Organization of Programming Languages, Theory of Computing, Object Oriented Design, Data Structures and Algorithms

EXPERIENCE

Brick works Academy

Programming Instructor

Jun 2025 – Sep 2025

London, Canada

- Taught fundamental programming concepts to students aged 9 to 13, covering core programming principles and logical thinking.
- Developed problem-solving skills by guiding students through structured solution design, breaking down complex problems into more manageable steps.
- Designed and delivered hands-on programming activities that enabled students to build, code, and troubleshoot their projects.

FLL (FIRST LEGO League)

Robotics Mentor

Jun 2021 – Sep 2023

Toronto, Canada

- Mentored the award-winning Glen Ames P.S. Robotics Team; resulted in invitations to two international First Lego League robotics competitions.
- Instructed students in programming LEGO EV3 robots, covering key coding concepts and hands-on application of robotic functions.
- Delivered lessons on Python programming basics, emphasizing code structure, object-oriented code and the importance of clear documentation through comments when working with others.

PROJECTS

Min-Max Life | React Native, Typescript, Supabase, OpenAI

- Developed a gamified productivity app using React Native (Expo), TypeScript, and Supabase, featuring user authentication, quest tracking, and real-time stat visualization. Leveraged React Query (TanStack Query) for efficient data fetching and caching, and Tamagui for cross-platform UI components supporting iOS, Android, and Web.
- Designed and implemented PostgreSQL database schema with 4 normalized tables and optimized queries using indexed columns. Developed RESTful API service layer with TypeScript for type-safe database operations including CRUD operations, stat tracking, and completion history.
- Integrated OpenAI GPT-4 API to automatically assign stat points (0-10) to user-created quests based on difficulty and activity type, reducing manual input.

Multi tenant E-Commerce Platform | Next.js, PayloadCMS, MongoDB, Stripe Connect

- Developed a reusable multitenant e-commerce template enabling users to create and manage their own digital product storefronts with isolated data and independent Stripe payment processing.
- Implemented Stripe Connect integration with separate Stripe accounts per tenant, platform fee handling, and webhook processing for automated order fulfillment and account verification.
- Developed a full-stack application using Next.js 15 and React 19, PayloadCMS with MongoDB, tRPC, and TanStack Query, featuring product catalog browsing, shopping cart, checkout flow, and a library for purchased products.
- Adapted template into specialized platform for farmers market with pickup-only ordering system.

Legend of a Missing Diamond | Java, JUnit, Jackson, Figma, Lucidchart

- Developed a 2D adventure puzzle engine in Java, utilizing object-oriented design patterns and the Jackson library for robust JSON-based player data persistence and save/load functionality.
- Engineered comprehensive architectural documentation using Lucidchart, creating detailed UML Class and Sequence diagrams to model complex object interactions and game state management.
- Authored a formal Software Requirements Specification (SRS) and designed high-fidelity UI prototypes in Figma to align development goals with user interaction flows before implementation.
- Established a rigorous testing protocol using JUnit to validate core game mechanics, ensuring stability in collision detection, inventory systems, and puzzle logic.

TECHNICAL SKILLS

Programming Languages: Java, Python, C, C++, SQL, JS/TS, HTML/CSS, ARM Assembly

Frameworks/Libraries: React, React Native, Node.js, OpenAI API, JUnit, Next.js, FastAPI, Jackson, Java-Swing

Developer Tools: Git, MongoDB, UNIX, VS Code, Figma, Lucidchart, Markdown, Latex

Languages: Native proficiency in English. Intermediate proficiency in French.