

# Momin Alvi

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## EDUCATION

### Queen's University

Sep 2022 – Apr 2027

*Bachelor of Computing Honours, Software Design Specialization with Professional Internship*

*Kingston, ON*

- **cGPA:** 3.86
- **Relevant Coursework:** Data Structures, Algorithms, OS, Databases, Software Architecture, Software QA, HCI

## EXPERIENCE

### Ontario Teachers' Pension Plan (OTPP)

May 2025 – Present

*Software Engineering Intern*

*Toronto, ON*

- Built an **LLM assisted** remediation workflow for **1,000+** GitHub Dependabot alerts across internal repositories
- Generated sanitized **JSON context** files feeding the **LLM remediation pipeline** for vulnerability analysis
- Developed a **RAG** search system with embeddings and **ChromaDB** to enable semantic retrieval over JSON data
- Built a **Jenkins CI/CD** pipeline automating **Docker** tagging and registry pushes, reducing deployment steps by **70%**
- Refactored legacy **SOAP** integrations into **REST** endpoints to modernize backend APIs and improve maintainability

### Kaniq

Mar 2026 – May 2026

*AI Systems Developer*

*Remote*

- Deployed a **FastMCP** agent server on **GCP Cloud Run** to expose **LLM** ranked banking product retrieval tools
- Built a **Playwright/Python** ingestion pipeline normalizing **100+** products across **10+** banks into a unified schema
- Engineered **MongoDB Atlas** upserts, soft deletion, and reconciliation logic to maintain an active product catalog
- Designed **Gemini 2.5 Pro** prompts to structure card rewards, benefits, fees, and eligibility metadata
- Added **1,245** pytest cases across providers, persistence, validation, **MCP** tools, and internal API routes

### Queen's Computing Student's Association (COMPSA)

Aug 2024 – Dec 2024

*Backend Developer*

*Kingston, ON*

- Built backend services to automate student club hiring workflows using **Node.js**, **Express.js**, and **Sequelize ORM**
- Designed normalized **Sequelize** models in **MySQL** to improve data integrity and API reliability
- Integrated Calendly and Postmark APIs to automate interview scheduling and email notifications

### Dunin-Deshpande Queen's Innovation Centre

May 2024 – Aug 2024

*Entrepreneur in Residence*

*Kingston, ON*

- Co-founded Vita Home, a marketplace for senior accessibility equipment to improve home safety and independence
- Built an MVP using **Next.js**, **Node.js**, and **MySQL** to support product discovery and marketplace workflows
- Conducted research with **100+** seniors and professionals, securing **30+** potential customers and validating demand

## PROJECTS / OPEN SOURCE

### Coursify.ca | Open Source Contributor | Next.js, TypeScript, Supabase, Zod, Vitest | [Live](#) | [GitHub](#) Apr 2026 – Present

- Authored **32** PRs and **113** commits to harden and polish a public course planning platform used by Queen's students
- Hardened **15** protected **Next.js** API routes with **Supabase** auth, **Zod** validation, and rate limiting
- Expanded **Vitest** coverage across **17** test files for auth, access control, uploads, course APIs, and security routes
- Improved course pages, comments, navigation, charts, and mobile layouts using **React**, **TypeScript**, and **Tailwind CSS**

### Scholar Pups | [FastAPI](#), [Next.js](#), [MongoDB](#), [LangChain](#) | [Devpost](#)

Aug 2024

- Contributed to an AI scholarship platform with Chrome feedback, reducing search time by **40%**
- Implemented a **FastAPI/LangChain** review workflow returning feedback in **~4** seconds
- Developed a **Manifest V3** Chrome extension that returns AI feedback directly in-page
- Scraped scholarship data with **BeautifulSoup**, **Requests**, and **Pandas** into **MongoDB**

## TECHNICAL SKILLS

**Languages:** Java, Python, C, SQL, HTML, CSS, JavaScript, TypeScript, Bash, Haskell

**AI/LLM:** Gemini 2.5, Vertex AI, LangChain, Llama 3.1, Ollama, RAG, embeddings, ChromaDB

**Backend/Cloud:** FastAPI, FastMCP, Flask, Node.js, Express.js, Supabase, Upstash Redis, Docker, Jenkins, GCP

**Testing/Security:** Vitest, Zod, Playwright, Selenium, rate limiting, API validation

**Databases/ORMs:** MongoDB Atlas, MongoDB, MySQL, Sequelize

**Frontend/Tools:** React, Next.js, Tailwind CSS, Radix UI, Recharts, Git, Auth0, AEM Cloud, StencilJS