

Kevin Manka

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EDUCATION

Western University—Bachelor's Degree in Engineering Science, Software Engineering (Co-op) Sep. 2021–May 2026

- **Engineering Dean's List** (2022, 2023, 2024; 3.95 Cumulative GPA)
- Distinctions: *President's Scholarship of Excellence* (97% admission average), *Professional Engineers Ontario Scholarship*, *Engineering Design Course Coordinator*, *2× NSERC USRA Recipient* (\$20,000), *Hack Western 9 Google Cloud Winner* 🏆, *Western AI Club VP* 🏆
- Coursework: *Algorithms and Data Structures for Object-Oriented Design*, *Digital Logic*, *Scripting Fundamentals*, *Software Construction and Design*, *Database Management*, *Web Technologies*, *Networking Principles*, *Human-Computer Interaction*, *Microprocessors*, *Operating Systems*

TECHNICAL SKILLS

Languages: Java, C, C++, CSS, HTML, JavaScript, TypeScript, Python, SQL (MySQL, PostgreSQL), MongoDB

Frameworks/Libraries: JavaFX, Maven, Prisma ORM, Express, Next, React, Remix, Pandas, OpenAPI, OpenCV, Spring Boot

Technologies: AWS, Azure, GCP, Docker, Kubernetes, Confluence, Jira, Node.js, GitHub, VS Code, Terraform, MS Office, Adobe CC, Figma

Core Competencies: Agile, Algorithms, Data Structures, FaaS, ReST, MVC, NLP, Object-Oriented Programming, RDBMS, UML, UX/UI

WORK EXPERIENCE

Software Engineering Intern

Sep. 2024–Present

AudienceView Ticketing Corporation | Toronto, ON

Enterprise Architecture Intern

May 2024–Aug. 2024

Canada Life Assurance Company, Technology Enablement Platform | Toronto, ON

- Established **automated GitLab CI/CD** testing pipelines for OpenAPI specifications with Schemathesis and consumer-driven contracts with Pact, drawing comparisons to legacy testing approaches and **providing actionable insights** to adopt more efficient testing methods
- Developed and deployed a Splunk telemetry-focused Spring Boot microservice in **Amazon EKS**, creating a blueprint for **capturing observability metrics** and helping site reliability engineers **enhance monitoring and diagnostics** for rapid microservice development
- Created a **scalable, event-driven serverless architecture** on AWS for an S3-deployed React application, writing **Terraform** scripts to leverage **API Gateway**, **Cognito**, and **Lambda**, using SQS and Step Functions for asynchronous communication and orchestration
- Built an advanced **Retrieval-Augmented Generation (RAG) application** using Azure OpenAI's **text embedding and generative LLMs** with MongoDB Atlas Vector Search, improving accessibility to **1 PB+ of internal data** through a conversational interface

Software Engineering Research Fellow

Sep. 2023–Present

Canadian Severe Storms Lab, Northern Hail Project | London, ON

- Building **NHP Hailgen**, a **novel software solution** to analyzing hailpads photogrammetrically, utilizing 3D model analysis and computer vision with **Open3D** and **OpenCV** to generate depth maps from point clouds and individualize hail indentations via **image segmentation**

Software Engineering NSERC USRA Research Intern 🏆

May 2023–Aug. 2023

Canadian Severe Storms Lab, Northern Tornadoes Project | London, ON

- Developed **NTP 360**, a **VR-enabled** web application that **processes, stores, and shares** panoramic image sequences from storm damage surveys to offer a clearer understanding of storm damage in Canada to researchers and the greater public alike
- Created a frictionless interface with **Next, React, and Tailwind CSS** for authenticated users to upload and share 4-GB+ sequences along with **rich map visualizations** of geospatial data, all of which are stored and managed in a **PostgreSQL** database
- Generated spherical texture mappings with **Three.js** and engineered **universal VR controller logic** with new WebXR-ready libraries, enabling users to navigate 3D environments for **2000+** interactable panoramas across several damage surveys in and out of VR

Web Developer

Jun. 2022–Aug. 2022

Pillar Nonprofit Network | London, ON

- Spearheaded the development of a comprehensive website package for Pillar Nonprofit Network's SocialSIX program, using **Agile methodology** to ensure iterative development and regular feedback through effective communication with project stakeholders
- Implemented responsive CSS and **100+** custom dynamic website illustrations and animations across several webpages

LEADERSHIP & PROJECT EXPERIENCE

Letter Ninja Dysgraphia Learning Application 🏆

Jan. 2024

Ontario Engineering Competition—Programming Division

- **Won First Place among 13 competing universities province-wide**, qualifying for the Canadian Engineering Competition
- Developed an engaging and accessible web-based learning experience in under **7 hours** to support young students with dysgraphia
- Implemented **custom distance and scoring algorithms**, adapted to a unique, **React-based drawing canvas** to measure drawing accuracy and speed with high precision, employing **Remix** and **Vite** to decrease the time to first paint by **54%**

FoodCycle Shopping List Management Application 🏆

Oct. 2022–Dec. 2022

RBC—Design Thinking Program

- Selected as **one of 28** high-achieving students to employ the **design-thinking process** in a 4-member team and present a novel application solution applying to the United Nations' Sustainable Development Goals
- Researched the food waste problem space, underwent a **collaborative ideation process** that resulted in 3 innovative solutions, and pitched an interactable, high-fidelity prototype using **Figma** to Western University faculty deans and RBC executives