

David Olejniczak

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Education & Certifications

McMaster University

Expected May 2027

B.Eng. Bachelor of Software Engineering (Co-op) – CGPA 3.5

- Relevant Coursework: Data Structures & Algorithms, Operating Systems, Databases, Object-Oriented Programming in Java

Microsoft Azure: AI Essentials Professional Certificate by Microsoft

Experience

Software Engineering Associate

Jan 2025 – Present

Ontario Ministry of Transportation | Engineering Materials Office

Toronto, ON

- Created data ingestion and processing systems using C#, VBA, and Python to automate **300+** Excel submissions, reducing data errors, and accelerating turnaround for results from **220+** labs in The MTO Proficiency Sample Testing Program.
- Developed a full-stack web app using JavaScript, TypeScript, HTML5, and CSS, mapping **1,100+** quarries and pits and incorporated external stakeholder feedback to deliver a more user-friendly interface for **50+** users.
- Engineered end-to-end automation pipelines in Python and SQL, reducing per-lab report creation time by over **90%** from 10 minutes to under 1 minute, saving hours weekly by automating previously manual processes.
- Analyzed over **20,000** provincial materials records in Python using Pandas, NumPy, and Scikit-learn, applying jackknife validation to inform **75+** contract and research decisions and enhance provincial construction oversight.
- Worked cross-functionally with engineers to capture requirements, validate outputs, and deliver automation tools, driving long-term adoption through maintainable code, automated testing, and CI/CD integration.
- Presented automation tools to over **160** MTO engineers, employees and managers in a branch-wide meeting.

Projects

Hackanomics – Gamified Investment Learning App

- Won the InvestEase challenge at Hack the North, Canada's largest hackathon, with a gamified investing education web app that integrates OpenAI and Gemini to generate adaptive courses and portfolio insights.
- Built a full-stack platform with Next.js, React, and TypeScript on the frontend and FastAPI with Python on the backend, including a REST proxy to the InvestEase sandbox and Supabase for identity and data persistence.

Race Atlas – Cycling Database and Website

- Built a cloud-based backend using Java Spring Boot and PostgreSQL, hosted on Heroku, that exposes REST APIs to index and serve over **800** riders/teams and **4,000+** race results.
- Shipped a website using React, Node.js, and TypeScript, hosted on Vercel, that consumes the Spring Boot API providing cyclists with an intuitive interface to search for rider information and access Strava links.

Stat Grubb – Python Statistical Package

- Published a statistical Python package on PyPI using C++, averaging **~100** monthly downloads.
- Integrated a CMake build system, automated testing, and packaging pipelines for consistent cross-platform performance.

Skills

Languages: Python, Java (Spring Boot/JUnit), C#, C++, JavaScript/TypeScript, SQL, PowerShell, HTML5, CSS

Frameworks/Tools: React, Node.js, Flask, CMake, FastAPI, Docker, Git, GCP, Azure, Vercel, Agile, Microservices

Databases: MS Access, PostgreSQL, SQLite, IBM DB2

Awards & Leadership

McMaster University — Awarded the McMaster Engineering Award of Excellence

Professional Cycling — Gold Medalist at Canada Summer Games; 3x National Champion; 5x Provincial Champion; 3rd UCI 2.2 Tour de Krupie