Daniel Di Giovanni

linkedin.com/in/daniel-di-giovanni | github.com/danpythonman | danieldigiovanni.com

dannyjdigio@gmail.com | (647) 884-8344

Education

York University Toronto, ON, Canada
Master of Science in Computer Science *2025 — present (expected graduation in 2027)*

York University Toronto, ON, Canada
Bachelor of Engineering in Software Engineering ***(GPA: 3.8/4.0)*** *2020 — 2025*

Work Experience

Software Engineering Co-op January 2023 - August 2023
PointClickCare *Toronto, ON, Canada (Full Time)*

- Wrote SQL queries to track SLA metrics across **thousands of requests**, enabling the team to increase visibility.
- Automated integration testing for an ETL pipeline with Jenkins, reducing QA effort and increasing deployment confidence.
- Tracked cloud telemetry events using Java and KQL, **enabling real-time observability of distributed systems** on Azure.
- Provisioned and modified Azure cloud resources across development and production environments using Terraform.
- Extended a Java Spring Boot API with new endpoints to deliver time-sensitive metrics to a React-based dasboard.

Full Stack Developer June 2021 - December 2021
Dwella Investing *Remote (Contract)*

- Designed and implemented backend REST APIs with Node.js and Express, writing **regulation-compliant business logic**.
- Built an interactive frontend with React and Material UI, supporting **real-time updates from the Ethereum blockchain**.
- Secured endpoints with JWT-based authentication and followed best practices for token handling.
- Modeled and administered MongoDB schemas based on user flows and application data requirements.

Capstone Project

Satellite Operations Services Optimizer September 2024 - April 2025
York University, Canadian Space Agency *Toronto, ON, Canada*

- Designed and implemented a scheduling algorithm, performing **over 100x faster** than the existing system.
- Interfaced with the Canadian Space Agency to gather requirements, give presentations, and tailor a system to their needs.
- Used Python to implement a **network flow algorithm**, a **bin packing algorithm**, and a **genetic algorithm**.
- Deployed the system on AWS using Terraform, reducing costs by using Fargate on-demand for high-power computations.

Other Experience

Peer Assisted Study Session (PASS) Leader September 2024 - April 2025
York University *Toronto, ON, Canada (Part Time)*

- Facilitated study sessions for **discrete mathematics** and **physics**, encouraging collaboration between students.
- Prepared weekly study exercises following course material, **incorporating students' feedback to improve** the sessions.
- Collaborated with other PASS leaders to give feedback and improve each other's leadership skills.

E-Commerce Advisor Digital Main Street
June 2022 - October 2022 *Remote (Contract)*

- Built a total of **six ecommerce websites** using Shopify, Square, and Bookmark, incorporating **SEO best practices**.
- Improved clients' websites by auditing, giving recommendations, and directly collaborating on the sites.
- Assisted **seven** clients in accessing a **$2,400 micro-grant** and developed personalized digital investment plans.

Projects

GPT-2 Clone from Scratch | github.com/Danpythonman/gpt-2 July 2025

- Developed a clone of GPT-2 following it's publicly-available architecture for educational purposes. Fully implemented multilayer perceptrons, self-attention mechanisms, and GPU-powered training loops using PyTorch and CUDA.

GPT-2 Tokenizer from Scratch | github.com/Danpythonman/llm-tokenizer June 2025

- Implemented the GPT-2 tokenizer using byte pair encoding (BPE) from scratch in Python, replicating the subword tokenization process used in LLMs. Gained insights into vocabulary compression and tokenization mechanics.

Micrograd - Neural Network from Scratch | github.com/Danpythonman/micrograd May 2025

- Implemented an autograd engine using computation graphs and automatic differentiation and backpropagation from scratch in Python, based on Karpathy's micrograd. Demonstrates deep understanding of how neural networks learn.

MNIST Digit Predictor | github.com/Danpythonman/mnist_digit_predictor September 2024

- Developed a web-based digit recognition tool by training a neural network on the MNIST dataset with Python and Tensorflow, achieving high accuracy. The model was integrated into a Flask application for real-time inference.

Technical Skills Summary

Machine Learning	Python, PyTorch, CUDA, NumPy, Matplotlib, Pandas, Jupyter Notebooks, Anaconda
Full Stack	Python, Flask, FastAPI, Java, Spring Boot, NodeJs, ExpressJS, MySQL, PostgreSQL, MongoDB
DevOps and Cloud	Docker, Terraform, Linux, Systemd, Jenkins, Kubernetes, Nginx, AWS