

# Collin A. P. Joseph, MEng.

Artificial Intelligence Engineer | Machine Learning Engineer

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## PROFESSIONAL SUMMARY

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Results-driven Artificial Intelligence and Machine Learning Engineer with 4+ years of experience in Software Development and a continuous-growth mindset. Skilled in Python, Data Science, and AI Application Development. Proven track record of delivering customer-facing software products and features. Seeking to leverage experience and education to contribute to impactful AI related roles.

## WORK EXPERIENCE

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### Technologist

*Sep 2026 - Present*

Seneca Polytechnic

Toronto, Ontario

- Frontend application development using Angular.
- Upgraded production application from Angular v19 to v22.
- Accelerated development using GitHub Copilot.

### Software Developer

*Dec 2020 - Mar 2025*

Yulio Technologies Inc.

Toronto, Ontario

- Published and maintained multi-platform (.NET Core & .NET Framework) C# application.
- Built C# REST API client to upload 3D models to cloud rendering platform.
- Deployed C++ tool to generate and manipulate HDR image-based lighting environment maps.
- Led multi-national development team while continuing hands-on development.
- Shipped 12 features across 3 key software products per year using Agile Project Management.

### Software Developer

*Nov 2019 - Apr 2020*

wrnch AI

Montreal, Quebec

- Delivered new features for Computer Vision inference server using C++.
- Prototyped new CNN models and updated existing ones using Tensorflow.
- Automated data pre-processing pipeline and model benchmarking using Python.
- Deployed watchdog client using Python for server monitoring and control.
- Shipped new features and updates to clients using Docker.

## **Graduate Student Researcher**

*Sep 2017 - Oct 2019*

McGill University

Montreal, Quebec

- Developed ensemble classifier for medical microwave radar scans using Python.
- Performed extensive statistical analysis on radar scans using MATLAB and R.
- Optimized ensemble training using advanced adaptive algorithms.
- Improved predictive performance by proposing new time-frequency decomposition features.
- Streamlined data pre-processing by developing tools in Python.

## **Signal Processing Algorithm Developer**

*Sep 2016 - Dec 2016*

ON Semiconductor

Waterloo, Ontario

- Prototyped an environment classification algorithm for low-resource digital hearing-aids (MATLAB & Assembly).
- Optimized acoustic noise reduction algorithm in Assembly, decreasing power consumption by 20%.
- Leveraged fixed point arithmetic operations to maximize algorithm efficiency on embedded hardware.
- Executed rigorous regression testing on algorithm to ensure performance.

## **Signal Processing Algorithm Developer**

*Jan 2016 - Apr 2016*

ON Semiconductor

Waterloo, Ontario

- Prototyped a digital equalizer firmware module in Assembly Language.
- Simulated and performed experimental analysis on digital equalizer using MATLAB.
- Executed and documented extensive test procedures for acoustic feedback cancellation algorithm.
- Documented and presented analysis and test results to firmware and software development team.

## **Signal Processing Algorithm Developer**

*May 2015 - Aug 2015*

ON Semiconductor

Waterloo, Ontario

- Prototyped a digital equalizer firmware module in Assembly Language.
- Simulated and performed experimental analysis on digital equalizer using MATLAB.
- Executed and documented extensive test procedures for acoustic feedback cancellation algorithm.
- Documented and presented analysis and test results to firmware and software development team.

## **Teaching Assistant**

*Sep 2014 - Dec 2014*

Faculty of Engineering, University of Waterloo

Waterloo, Ontario

- Tutored engineering students in C# programming fundamentals.
- Presented course content to students on an individual basis and in classes of up to 100.
- Consistently completed administrative and pedagogical tasks ahead of deadlines.
- Cooperated effectively with teaching team of 18 members to ensure smooth running of the course.

## **Research Assistant**

*Jan 2014 - Aug 2014*

Center for Intelligent Antenna and Radio Systems, University of Waterloo

Waterloo, Ontario

- Developed and evaluated a ray tracing simulation tool for radio wave propagation using C++ and MATLAB.
- Improved runtime by over 60% using CUDA parallel computing platform on Nvidia GPU hardware.
- Built GUI using MATLAB to visualize simulation results.

## Electrical Engineering Intern

LPH Renewable Energy Ltd.

May 2013 - Aug 2013

St Michael, Barbados

- Installed domestic and commercial scale photovoltaic power systems.
- Assisted in project layout calculations and design.
- Streamlined project cost estimation using Microsoft Excel.

## EDUCATION

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### Graduate Certificate, Artificial Intelligence

Seneca Polytechnic

Jan 2026 - Oct 2026

North York, Ontario

- Relevant coursework: Machine Learning, Deep Learning, Computer Vision, Natural Language Processing
- GPA: 4.0/4.0
- Honors: President's List

### Masters of Engineering, Electrical Engineering

McGill University

Sep 2017 - Oct 2019

Montreal, Quebec

- Relevant coursework: Machine Learning, Signal Processing, Statistical Analysis
- Thesis: [Statistical analysis and machine learning algorithms for RF breast cancer screening](#)

### Bachelors of Applied Science, Electrical Engineering

University of Waterloo

Sep 2012 - Jun 2017

Waterloo, Ontario

- Co-op program (24 months of industry internships in total).

### Secondary School Diploma, Sciences

Harrison College

Sep 2005 - Jun 2012

Bridgetown, Barbados

- CAPE (A-level) Physics, Mathematics & Chemistry

## PROJECTS

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### Personalized Medication Assistant

Sep 2026

Stack: **Python, Langchain, ChromaDB, GeminiAPI**

Repo: [github/personalized-medication-assistant](#)

Smart assistant that uses GeminiAPI and Retrieval Augmented Generation to provide information about user medication regimens. Everyday users can use this intelligent assistant to quickly obtain relevant information about medications stored in their profile.

### Text Extraction from Images of Handwritten Prescriptions

Aug 2026

Stack: **Python, FastAPI, Docker, GCP, PyTorch, Hugging Face**

Repo: [github/text-from-prescriptions](#)

Containerized REST API that identifies medication brand names from images of handwritten text. API can be used to build cloud-deployable web applications to efficiently digitize physical medical records.

## Transformer-based Text Classification

Aug 2026

Stack: **Python, PyTorch, Hugging Face**

Repo: [github/aig230-project](#)

NLP pipeline which classifies review sentiments using BERT base model and custom classification head. Project demonstrates effective application of pre-trained transformer models to custom machine learning tasks.

## Gesture Recognition Pipeline

Aug 2026

Stack: **Python, Media Pipe, Scikit-Learn**

Repo: [github/aig210-project](#)

Computer vision pipeline using Media Pipe and a custom classification head to recognize hand gestures in photos. Project demonstrates effective use of existing machine learning libraries and with custom model development.

## Cloud Deployable Computer Vision API

Jun 2026

Stack: **Python, FastAPI, PyTorch, Docker, GCP**

Repo: [github/handwritten-digit-api](#)

Containerized REST API that accepts handwritten digits and returns classifications using a CNN model. Project demonstrates effective use of data science frameworks, containerization and cloud-deployment tools.

## ONLINE CERTIFICATIONS

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- **Google Prompt Essentials** - Google Career Certificates  
Issued: Aug 2025 | Credential URL: [URL](#)
- **Deep Learning Specialization** - DeepLearning.AI, Coursera  
Issued: Sep 2019 | Credential URL: [URL](#)

## SKILLS

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|---------------------------|----------|
| • Artificial Intelligence | • Python |
| • Machine Learning        | • C#     |
| • Software Development    | • C++    |