

# Christophe Lamarche

Generative AI Developer

Generative AI Developer with 5+ years of experience in building sophisticated end-to-end AI solutions. Proven expertise in leveraging LLMs (Gemini, GPT-5), multimodal foundational models, and vector databases to successfully design, build, and deploy over 15 AI-powered systems.

## EXPERIENCE

### Alpha Premium, Montreal — Gen AI Developer

October 2024 - October 2025

Consultant and revenue management for the hospitality and event industry for the development and integration of AI solution inside businesses' tech stack.

- Developed and deployed Gen AI agent (Gemini2.5) to automate management work, reducing manual processing time by 40%.
- Engineered data extraction orchestration pipeline using Dagster and LangChain resulting in a more reliable data flow for AI training with a 3x speed increase.
- Built proofs-of-concept with new AI innovations, successfully de-risking their adoption and viability for integration into our existing software with RESTful API.
- Engineered a dynamic rate solutions for the hospitality industry, reducing the processing time by 82%.
- Deployed and managed the 5 enterprise applications on Google Cloud.

### Moov AI, Montreal — Data Developer

January 2023 - October 2024

Consultant in the implementation of AI solutions for the culture, education, freight, and manufacturing sector. Developing 7 projects using a large spectre of IA technologies.

- Led the development of a proof-of-concepts that became a full-scale project with 200+ users within a month.
- Developed comprehensive solutions for time-series, language and document analysis utilizing LGBM, LLMs (OpenAI GPT-4), and vector database (ChromaDB);
- Engineered secured Q&A on technical documents with LLMs (OpenAI GPT-4) and vector databases (ChromaDB & LlamaIndex).
- Automated the model lifecycle by building CI/CD/CT pipelines on Azure and GCP, improving model deployment efficiency by 25%;

### Alstom Transport Canada, Saint-Bruno — BI Analyst

August 2021 - January 2023

Performance analyst of 20 large scale North American projects in the railway sector.

- Engineered and maintained executive-level dashboards in Power BI, used in strategic decision-making;
- Developed new plot widgets for Power BI in TypeScript and D3.js, optimizing the memory usage by 90%.
- Performed complex data analysis on critical manufacturing projects using SQL and DAX;

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 LinkedIn

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## SKILLS

**LANGUAGES** - Python, TypeScript, JavaScript, Rust, SQL, C

**FRAMEWORK** - React, Next.js, Flutter, FastAPI, Django, Streamlit

**ML/AI** - MLFlow, DeepEval, MLOps, LangChain, ChromaDB, PyTorch, LGBM, Optuna

**CLOUD** - GCP, Vertex AI, Azure, AI Foundry, OpenAI

**DEVOPS** - Docker, Kubernetes, IaC, Terraform, Git, Agile

## CERTIFICATIONS

**Professional Machine Learning Engineer** by Google Cloud, in progress.

**The Complete Full-Stack Web Development Bootcamp**, 2022

**The Complete Flutter Development Bootcamp with Dart**, 2020

## LANGUAGES

French (native)

English (Professional Proficiency)

## EDUCATION

### University of Montreal, Montreal — M.Sc. in Computer Science in AI

September 2021- February 2024

Thesis in Interoperability of data with Large Language Models (LLMs).

### ÉTS, Montreal — B.Eng. in Electrical Engineering with computer science profile

September 2016 - June 2021

Updated the laboratories for the Introduction to Machine Learning class.

Project on geolocalisation through array of accelerometers.

## PROJECTS

### Automatic Drafting for Saint-Hyacinthe Exposition — Python, n8n, Gemini API, FastAPI, Google Docs.

Agentic system to automatically generate email draft to respond to queries by the event's visitors with Gemini2.5, a knowledge base and a response validation system. This project enable the Saint-Hyacinthe Agriculture Exposition's customer service team to reduce emails response time by 40%.

### RAG in Google Chat — LangChain, Python, MongoDB, Chroma.

RESTful API powering a chat assistant on Google Chat to securely communicate with internal technical documents with LLM (OpenAI GPT3.5), ChromaDB, FastAPI and LangChain. With this RAG, the research for documents and information was reduces by 60% while introducing the enterprise to generative AI.

### Emilia — LangChain, OpenAI, Redis, Azure Durable Functions

Website: <https://emilasolutions.com/>

AI solution to correct and evaluate french text for the Saint-Anne College, reducing the correction time by 20% while guaranteeing a constant level of correction. The system optimized the number of calls to OpenAI API with serverless orchestration, enabling the capacity to respond to variable level of demand.

### Dog Sledding Management tool — Google AppScript, FastAPI, GoogleSheet

Designed a management system for a dog sledding company to assign dogs to excursions, minimizing exhaustion and ensuring compliance with MAPAQ regulations. The project required a complete overhaul of the company's data and document management system.

## HOBBIES

Coffee

Cooking

Software Development