

# Lakshya Prakash Agarwal

+1 (514)-258-6712 | [lakshyaag1202@gmail.com](mailto:lakshyaag1202@gmail.com) | [linkedin.com/in/lakshyaag](https://www.linkedin.com/in/lakshyaag) | [lakshyaag.com](https://lakshyaag.com)

AI/ML Engineer with cross-functional expertise bridging business and technology to build scalable LLM/GenAI systems. Delivering domain-driven solutions that transform technical innovation into measurable business and societal impact.

## EXPERIENCE

### Applied AI Engineer

Sept 2024 – Present

*Memorang - Building the "AI stack" for education*

*Toronto, CA*

- Architected and deployed an AI-powered language assessment system for the official TOEFL Practice app, leveraging **multi-modal LLM-based analysis** to provide real-time feedback on speaking/writing tasks, processing 4,000+ weekly submissions with 85% accuracy against human-graded responses
- Developed end-to-end knowledge management system using Vision Language Models (VLM) for **multi-vector retrieval**, enabling automated ingestion of content for fine-tuning, and reducing manual data entry by ~30%
- Built an event-driven agent framework using **LangGraph** for dynamic orchestration of specialized agent types, enabling composition of complex workflows such as automated question generation to cut down costs by ~40% for clients

### Graduate Research Assistant

Sept 2023 – Aug 2024

*McGill University, Desautels Faculty of Management*

*Montreal, CA*

- Consulted for a specialized investment company on behalf of DataSphere Labs to provide a detailed analysis and proof-of-concept for a **deep-learning/VLM** based pipeline for rapid valuation of art pieces
- Improved efficiency by ~40% by leveraging **GPT-4** to perform sentiment analysis on over 250,000 social media posts, speeding up time to insights and enhancing a study on how online media shaped public opinion on the Roe v. Wade debate

### Associate, Private Equity Group (Americas)

Sept 2020 – May 2023

*Bain & Company*

*Gurugram, IN*

- Led the development of **LLM-based** sentiment analysis system on **AWS EC2** using **Docker** and **Azure OpenAI**, processing financial documents for PE due diligence, and boosting operational efficiency by 50% in case team requests.
- Automated a retail analytics platform using **Python** and **Alteryx** on NielsenIQ PoS data, collaborating closely with data teams and leadership to save the practice ~150 hours/month and elevated client Net Promoter Score (NPS) to 90%
- Analyzed 50+ surveys through 10+ consumer behavior metrics covering brand awareness, NPS, key purchase criteria across industries, helping PE clients with investment decisions and generating ~2.8X average return

## SKILLS

**Languages:** Python, SQL, TypeScript, R

**AI/ML:** PyTorch, HuggingFace, RAG, LangGraph / LangChain, Diffusion Models, Vector DBs

**Data, Cloud & DevOps:** AWS/GCP, Pandas, Scikit-learn, Docker, MLflow, PostgreSQL, GitHub Actions, Git

**Full Stack:** FastAPI, React, Node.js

**Certifications:** Generative AI Associate Engineer (Databricks)

## PROJECTS

### WhatsApp-based Animal Accident Reporting Chatbot

- Volunteered with Costa Rican wildlife non-profit SalveMonos to develop an AI chatbot using GPT-4o, LangGraph, WhatsApp API, and Google Cloud, enabling local citizens to instantly report animal accidents to authorities in natural language and enhancing emergency response efficiency.

### LaunchLens (LLM-based VC Idea Evaluator)

- Awarded "Best Overall Project" among 150+ teams at a hackathon hosted by Harvard & Microsoft for developing an AI-powered tool to evaluate startup ideas against custom investment theses & criteria.

### Deep Learning & Optimization

- Developed an **autoencoder**-based conditional asset pricing model for a course project using **PyTorch** to extract latent factors from a cross-section of monthly stock returns and company characteristics, and then predict future expected returns.
- Engineered a Python-based solution for a Vehicle Routing Problem, optimizing public transit evacuation routes for the Montreal's public transit authority using Mixed Integer Linear Program (MILP) techniques and **Gurobi** solver

## EDUCATION

### McGill University, Desautels Faculty of Management

Montreal, CA

*Master of Data Science & Analytics (MMA) | GPA : 3.86/4.00*

*Jul. 2023 – Aug 2024*

**Relevant Coursework:** AI/ML in Finance, Enterprise Machine Learning, Optimization for Data Science

### Delhi University, Hansraj College

New Delhi, IN

*Bachelor of Arts (Economics) | GPA : 8.92/10.00*

*Jul. 2017 – Aug 2020*

**Relevant Coursework:** Microeconomics, Econometrics, International Trade, Financial Instruments