

GAURAANG MALIK

Multi-modal, Multi-Agent, LLM reasoning, Machine learning, Qualitative Research

CONTACT

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[Portfolio](#)

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EDUCATION

McGill University

**Masters of Information
Studies**

2023 - 2025

Amity University

**Bachelor of Science in
Information Technology**

2017-2020

SKILLS

Python, PHP, C++, C#

Multi-Agent Architecture

PostgreSQL, MySQL, NoSQL,

Vector Database (FAISS)

HTML, JavaScript, CSS

Qualitative Research

Figma, Canva

Final Cut, Photoshop

Organizational Skills

Attention to Detail

ABOUT ME

I'm an AI Consultant with a strong foundation in both qualitative market research and cutting-edge AI systems. I bring a rare combination of industry-tested project management skills and advanced technical capabilities gained through my Master's research at McGill University. My work spans experimental AI applications, data architecture, and real-world deployments — from automating legal workflows to enhancing plant growth tracking in sustainable farming systems.

I specialize in:

- Designing and deploying **LLM-based AI agents, vector databases, and semantic pipelines.**
- Applying **machine learning (Random Forest, K-Means, PCA, H2O, Gradient Boosting)** to real-world problems.
- Creating **custom AI workflows** for professionals in **law, agriculture, and research.**

AI Consultant

Independent | | 2025 – Present

- AI model development to solve domain-specific problems.
- Coaching a **lawyer** to build a personalized AI assistant to streamline repetitive tasks using local LLM deployment and data collection workflows using **PostgreSQL, FAISS and AI Agents.**
- Designing **IoT-driven smart-agriculture systems** that enable real-time soil-moisture monitoring and autonomous irrigation.

Research Experience

Research on LLM-Agent Architecture

McGill University | | April 2024 – June 2025

Part 1 Literature review - May 2024 | | August 2024 with Prof. Benjamin Fung

- Comprehensive understanding of Encoder and Decoder Transformer models.
- Acquired knowledge of the causes, types, and detection methods for AI hallucinations.
- Explored methods for mitigating AI hallucinations using LLM agents and Retrieval-Augmented Generation (RAG) systems.
- The research findings explore a multi-agent architecture that reduce fact conflict hallucination.

Part 2 Implementation - January 2025 | | June 2025 with Prof. Steven Ding

- Built a multi-agent LLM system integrating FAISS-based semantic memory, PCA for dimensionality reduction, and K-Means clustering for output analysis.

ACHIEVEMENTS

Rising Star Award,

Schlesinger Group,
September 2021.

Game Jam Titans,

3rd Place in a national level
game
development competition
August 2016.

- Implemented vector similarity search to detect hallucination patterns across agents.
- Managed all data interactions via a structured PostgreSQL backend.

Prior Experience

Project Manager

Schlesinger Group | | March 2021 - February 2022

- Delivered B2B, B2C and healthcare quantitative end to end projects across multiple industries.
- End-to-end research workflows from survey design, programming survey, translations, data collection, data cleaning to analysis.
- Built cross-functional bridges between stakeholders for seamless project delivery.

Associate Project Manager

Progreso Research | | February 2020 - February 2021

- Managed multiple B2B and B2C quantitative sample-only projects.
- Managed bidding RFQs for clients and vendors simultaneously.
- Managed costs per respondent for surveys by monitoring inference.
- Manage 30 projects at an average in a month with timely delivery.

Magento & WordPress Developer

Digital Empowerment Foundation | | May 2019 - July 2019

- Created Handloom website on Magento for an NGO. Digikargha.in
- Integrated payment gateways for Websites on Magento & WordPress.

Selected Projects (Full list on [Portfolio](#))

Hallucination Mitigation via Multi-Agent LLMs

Python, PostgreSQL, FAISS, PCA, K-Means

- Built a semantic memory framework for agent collaboration. Applied PCA for dimensionality reduction and clustered agent outputs to identify and reduce hallucinations.

Dental Age Estimator (McGill)

R, H2O, Random Forest, Neural Networks

- Used DNA methylation and dental variables to estimate age. Tuned multiple ML models with H2O and selected the best based on MAE, RMSE, and R².

Facebook Ad Strategy Research (McGill)

Survey Design, SMOTE, Decision Trees, SPSS

- Designed and analyzed survey data on Facebook ad effectiveness using SMOTE and tree-based models.

Recruitment Database Design (McGill)

MySQL, Data Normalization

- Built a scalable recruitment system normalized to 3NF with robust candidate-job tracking.