

VENKAT VIVEK

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Toronto, ON, Canada

EXPERIENCE

• Machine Learning Engineer

May 2023 - May 2025

Nectar First [\[🌐\]](#) / OutPoint [\[🌐\]](#)

Toronto, ON, Canada

- Led technical ownership of a **Marketing Mix Modeling (MMM) SaaS** platform, guiding development and deployment across a tech stack including **Flask, Node.js, JAX, TensorFlow, PyTorch** and **scikit-learn's ElasticNet** for **Bayesian causal inference** and regression
- Delivered MMM performance readouts for **E-commerce** and **CPG** brands, quantifying incremental media lift and providing data-driven recommendations for marketing budget optimization.
- Researched and co-developed a chatbot powered by the DeepMind **Gemini LLM** deployed in production, integrated with a **LangChain Retrieval-Augmented Generation (RAG)** system leveraging proprietary internal documentation to enable conversational access to marketing insights.
- Automated offline model training pipeline using **Apache Airflow** containerized on **Docker** mitigating data drift, concept drift and accuracy.
- Migrated cloud workflows from **AWS** to **GCP**, converting **boto3** Lambda functions to GCP equivalents using **Cloud Run Functions, Pub/Sub**, and **Cloud Storage APIs**, reducing infrastructure costs while maintaining performance and scalability.
- Implemented **Infrastructure as Code (IaC)** using **Terraform** and **Cloud Build** to provision and manage frontend and backend application instances for clients, facilitating **continuous development** workflows.
- Refactored **data ingestion pipeline** for improved maintainability, automating API pulls from platforms such as Meta, Google Ads, Google Analytics 4, TikTok, Pinterest, Snapchat, and The Trade Desk, with **continuous integration** into the database via scheduled **Cloud Run jobs**.

• Data Analyst Intern

May 2021 - August 2022

GEOTAB [\[🌐\]](#)

Oakville, ON, Canada

- Provided analytical support for a **Telematics SaaS** platform that serves over 55,000 global customers.
- Enhanced scikit-learn's **Random Forest Regressor** model used to predict and identify customer churn by 25% with pragmatic feature engineering and hyperparameter tuning.
- Conducted segmentation analysis of customer and partner support tickets using **NLP K-means clustering**, and presented actionable insights to the VP of Customer Success.
- Designed and implemented a product maintenance dashboard in **Redash** with **BigQuery**, streamlining the visibility and tracking of all active products managed by the Customer Experience Data Analytics team.

PROJECTS

• Two-Way Reading Recommendation System

May 2025 - June 2025

[Link to GitHub Repository -> \[🔗\]](#)

- Developed a multi-faceted reading recommendation system using **TensorFlow** (collaborative filtering) and **LangChain** embedded with **ChromaDB** (semantic search).
- Integrated **Hugging Face** classification transformer for sentiment analysis to enhance content recommendations.
- Built a **FastAPI** layer for low latency real-time inference serving.
- Utilized **Docker** and **Google Kubernetes Engine (GKE)** for scalable and consistent deployment.

SKILLS

- **Programming:** Python, SQL, JavaScript, R, Excel VBA
- **Database Systems & Cloud Platforms:** PostgreSQL, GCP, AWS, Databricks
- **Machine Learning:** NumPy, Pandas, JAX, TensorFlow, PyTorch, keras, Sci-Py, scikit-learn, NLTK, PySpark
- **Frameworks:** Flask, FastAPI, Node.js, Apache Spark, LangChain
- **DevOps:** Git, Airflow, Docker, Kubernetes, Terraform, JIRA

EDUCATION

• University of Toronto

Sept 2018 - June 2023

BASc. in Industrial Engineering

Toronto, ON, Canada

- AEMINAIEN: Minor in Artificial Intelligence Engineering
- AEMINBUS: Minor in Engineering Business

ADDITIONAL INFORMATION

Languages: English, Français

Interests: Birdwatching, Dostoevsky, GeoGuessr, Canadian Sports and the city of Toronto

Extracurriculars: Hands-on Biodiversity Volunteer at the Royal Ontario Museum (ROM)