

VENKAT VIVEK

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 [venkat-vivek](#) |  [VenkatVVV](#) |  [venkatvivek.io](#)

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.
- 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.
- Automated offline model training pipeline using **Apache Airflow** containerized on **Docker** mitigating data drift, concept drift and accuracy.
- Conducted geographically-based **A/B testing** experiments using Meta's **GeoLift** package on **R** for geostrategic recommendations.
- Executed cross-functional data science solutions, including **Looker** dashboards to replace manual reports, **HuggingFace** transformers to evaluate creator content, and lead verification automation using Google **Places API** to improve marketing accuracy.
- 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.

• Technical Systems Analyst Intern

May 2019 - August 2019

CIBC 

Toronto, ON, Canada

- Managed meeting logistics, including arranging schedules, meticulously documenting discussions and decisions, and ensuring timely follow-up on action items.
- Designed and implemented an office financial allocation sheet for Development Teams using **Excel Pivot Tables and Macros**, streamlining financial tracking and organization.
- Maintained and supported the **Scrum** Team Project workflow using **JIRA**, specifically by creating and closing sprints and generating necessary project reports.
- Completed an introductory course on Big Data concepts through **IBM's Big Data University**, enhancing foundational knowledge in data technologies.

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

PROJECTS

- **MIE490Y Capstone: Shift the Status Quo** Sept 2022 - May 2023
Penske Truck Leasing Co. [🌐]
 - Honoured with the **Wallace G. Chalmers Engineering Design Scholarship** and the **Peri Family Industrial Engineering Design Award**.
 - Designed and solved a timetable-constrained distance minimization optimization problem, adhering to client-defined scheduling and operational constraints.
 - Created a Scheduling Optimization Tool using the **Gurobi Optimization Program**.
- **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.
- **RAG Model Dispatch System** May 2025
Link to GitHub Repository -> [🔗]
 - Developed a Retrieval Augmented Generation (RAG) model router on Databricks, intelligently directing user queries to specialized ML models or a Gemini API-powered LLM.
 - Built and deployed specialized ML models for Fraud Detection, Credit Risk Assessment, and Customer Segmentation using Apache Spark (PySpark) and Spark MLlib.
 - Implemented secure data handling and logging, designed with Databricks Secrets and Python's logging module.

SKILLS

- **Programming:** Python, SQL, JavaScript, R, Excel VBA
- **Database Systems & Cloud Platforms:** PostgreSQL, GCP, AWS, Databricks
- **Data Science:** scikit-learn, TensorFlow, PyTorch, Pandas, NumPy, SciPy, JAX, Spark MLlib
- **Natural Language Processing Tools:** spaCy, NLTK, Hugging Face Transformers, LangChain
- **MLOps:** Apache Airflow, MLflow, Docker, Kubernetes, Terraform
- **Web Application Frameworks:** Flask, FastAPI, Node.js
- **Data Engineering:** PostgreSQL, Apache Spark, Redis, dbt, Databricks
- **Cloud Platforms:** AWS, Google Cloud Platform (GCP), Azure
- **Data Visualization:** Matplotlib, seaborn, Looker, Redash, Tableau, Power BI

CERTIFICATES

- **Architecting with Google Kubernetes Engine** June 2025
Google Cloud Skills Boost
- **Introduction to Docker** June 2025
Google Cloud Skills Boost
- **Data Scientist: Machine Learning Career Path** June 2025
Codecademy
- **Google Advanced Data Analytics Specialization** Sep 2024
Google

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)