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Profile

Principal-level Data Scientist with 10+ years of experience designing, deploying, and scaling production-grade machine learning and AI systems across enterprise and data-rich platforms. Deep expertise in forecasting, optimization, recommender systems, and Generative AI (LLMs), with a proven ability to translate advanced modeling into measurable business impact.

Areas of Expertise:

- Machine Learning & Applied AI
- Product-Driven Data Science
- Generative AI (LLMs, Agents, Prompting)
- Cloud-Native MLOps & CI/CD
- Forecasting, and Optimization
- Recommender Systems

Professional Experience

KETTEQ — September 2022- Present

Lead Data Scientist, September 2022

Responsible for the development and deployment of machine learning forecasting models on the KetteQ demand and operations planning software platform.

- Defined and executed the ML and AI roadmap supporting forecasting, causal modeling, and decision intelligence for enterprise customers.
- Architected and deployed scalable forecasting pipelines using Python, sktime, Docker, and Airflow, enabling automated training, evaluation, and deployment across thousands of time series.
- Developed causal machine learning models to analyze the impact of holidays and promotions on product demand, providing actionable insights for marketing and sales teams.
- Modularized code using object-oriented programming and connected Java and Python, resulting in more efficient implementation of model pipelines.
- Developed LLM-powered natural-language-to-SQL agents to democratize access to demand analytics for non-technical stakeholders.

LOBLAW COMPANIES LIMITED — 2021 – 2022

Data Scientist, Supply Chain Analytics, May 2022 – July 2022

Responsible for the exploratory data analysis for large datasets involving multiple distribution centers across different zones using Big Query.

- Developed multistep, univariate, and multivariate shipment forecasting models using autoregressive integrated moving average (ARIMA), Prophet, and SARIMAX with average accuracies over 75%.
- Reviewed R scripts for new product introduction using a Gower's distance as a similarity measure to get reference products for forecasting new products to ensure future accuracy.

Data Science Analyst, Intern, 2021 – 2022

Conducted exploratory data analysis, developed machine learning models for health care data analytics, and presented business insights to key stakeholders.

- Implemented a boosted tree classifier on Big Query ML for predicting patient churn with an AUC of over 65%.
- Initiated and implemented a patient likelihood classification model for predicting the most likely patients to respond to a recommendation notification with a testing accuracy of approximately 70%.
- Researched and presented concepts on the mathematics of deep learning and recommender systems to team members on a biweekly basis with proper documentation. Improved the team's understanding of machine learning.

AFRILEARN 2022-2025

Machine Learning Consultant / AI Developer, May 2022 – May 2025

(UNICEF-sponsored EdTech Project)

Contributed to a $100,000 UNICEF-funded AI initiative aimed at improving access to quality education across Africa.

- Designed and deployed a recommender system to personalize learning content and improve learner engagement at scale.
- Integrated Generative AI (OpenAI / ChatGPT) workflows to automatically generate curriculum-aligned quiz questions, increasing content scalability and instructional efficiency.
- Collaborated with product, engineering, and education stakeholders to align AI solutions with learning outcomes and platform growth.
- Supported deployment, evaluation, and iteration of AI systems in a real-world, high-impact product environment.

SHARPESTMINDS 2021

Data Science Fellow, April – August 2021

Participated in a mentorship program and was responsible for building a machine learning web application for Amazon product reviews from data collection to deployment.

- Built a full-stack machine learning web application that classified Amazon product reviews using natural language processing. The product helped customers clarify product selection based on keywords discussed in product reviews.
- Created an original dataset by building a data pipeline that scrapes Amazon product reviews using Beautiful Soup and performs data cleaning to prepare the dataset for topic modelling.
- Applied natural language processing topic modelling using a latent Dirichlet allocation model in SK-learn to identify keywords for each product's review.
- Deployed model as a web app using Python Flask and Heroku.

UNIVERSITY OF TORONTO 2016 – 2021

Machine Learning Team Lead, April 2016 – August 2021

Collected user and business requirements and compiled detailed project plans for supply chain optimization projects with Unilever and Nestle Canada.

- Developed random forest models to help a large food manufacturing company with underpayment claims classification with a testing accuracy of over 90%.
- Created a local heuristic search model for inventory allocation for large food manufacturing companies with a potential reduction in penalty costs up to $200K monthly.
- Developed demand forecasting models using multivariate regression models, generative adversarial networks and Bayesian LSTMs using Keras, sci-kit-learn, TensorFlow, and PyTorch with an average forecasting accuracy of 80% and less than 5% bias.

EDUCATION

UNIVERSITY OF TORONTO

PhD (ABD), Industrial Engineering, 2024

- Applied lattice methods in the robust valuation of financial derivatives with uncertain parameters.
- Relevant Skills: Probability, Statistics, Operations Research, Research and Optimization.

UNIVERSITY OF BENIN

Master of Engineering, Industrial Engineering, 2010

- Relevant Skills: Applied Statistics, Systems Engineering and Mathematical Programming.

Bachelor of Engineering, Production Engineering, 2008

SELECTED AI & MACHINE LEARNING PROJECTS

- **Generative AI Recommendation System**
  Designed an LLM-powered conversational recommendation system enabling users to upload product data (CSV/PDF) and receive real-time recommendations using vector search and API-based inference.
- **Production-Grade Forecasting Platform**
  Built an end-to-end forecasting engine supporting multiple statistical and ML models, automated evaluation, model selection, and containerized deployment.
- **LLM-Based Analytics Agent**
  Developed a natural-language-to-SQL agent using LLMs to enable business users to query large-scale datasets without SQL expertise.
- **MLOps & CI/CD Prototyping**
  Implemented containerized inference services, automated retraining pipelines, and monitoring workflows to improve reliability and reproducibility of ML systems.

TECHNICAL SKILLS

- **Machine Learning & AI**
  Python, SQL, scikit-learn, TensorFlow, PyTorch, Forecasting, Optimization, Recommender Systems, Explainability
- **Generative AI & NLP**
  OpenAI APIs, LLM Agents, Prompt Engineering, Vector Databases, Topic Modeling, spaCy, NLTK
- **MLOps & Cloud**
  AWS, Docker, Kubernetes, Airflow, CI/CD, Model Versioning, Monitoring, API Deployment (Flask, FastAPI)
- **Data & Platforms**
  BigQuery, Teradata, PySpark, Power BI, GCP, Azure
- **Engineering & Collaboration**
  Java, Shell Scripting, Git, GitLab, JIRA, Confluence

CERTIFICATIONS& MEMBERSHIPS

- Amazon Web Services (AWS) Certified Cloud Practitioner
- Microsoft Azure Fundamentals
- Institute of Business Forecasting (Member)