

# Sruthi Jammalamadaka

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## EDUCATION

**Wilfrid Laurier University** | Computer Science and Business (BSc)

Sep 2020 – 2025

## CERTIFICATIONS AND TRAINING

**Databricks** | AI/BI for Data Analysts, Generative AI Application Development, Build Data Pipelines with DLT, Databricks Streaming and DLT

**Microsoft** | Power BI Data Analyst Certified, Azure AI Fundamentals

## SKILLS

**Languages:** Python, SQL, Java, JavaScript, TypeScript, C++

**Tools:** Databricks, Airflow, Streamlit, LangChain, OpenAI API, PowerBI, Git

**Technologies & Concepts:** ETL Pipelines, LLMs, Prompt Engineering, Data Visualization, RAG

## EXPERIENCE

**Scotiabank** | Data Engineer Intern

Waterloo, Sep 2023 – December 2023

- Played a crucial role in the migration of on-premises data to GCP, ensuring a smooth transition and optimal utilization of cloud resources
- Created detailed Confluence pages to document migration processes, data pipeline architecture, and best practices
- Actively contributed to customer airflow monitoring, ensuring the reliability and performance of data workflows

**Scotiabank** | Technical Business Engineer Intern

Toronto, May 2022 – Aug 2022

- 90% accurately synthesised recommendations based on data analysis, resulting in a thorough report
- Assessed business and technical needs, created flowcharts and documented back-end functionality, resulting in customer satisfaction
- Used Power-BI to create multiple dashboards with the team to deliver clean and effective solutions to clients

## PROJECTS

### FinSecure Data Pipeline

- Using Databricks, Azure Data Factory, and Delta Lake, a scalable end-to-end AML monitoring pipeline was designed to process more than 50 GB of transaction data every day with subsecond latency.
- Ensuring 99.9% pipeline dependability and regulatory compliance criteria, strong data versioning, automated quality checks, and rollback capabilities were implemented.
- Streaming architecture and real-time machine learning fraud scoring models were integrated to enable automated alert generation and immediate suspicious behaviour identification.

### AML Insight

- Created an automated solution for detecting money laundering by analysing financial transaction patterns with Python and PowerBI.
- Reduced false positives by implementing machine learning techniques to detect suspicious activity with 90% accuracy.
- Automated reporting procedures for regulatory compliance resulting in a 40% reduction in human review time

## **Unified Customer Data Hub**

- Using cloud-native architecture, a data management system was created to combine and harmonize customer data from more than 15 different source systems (CRM, ERP, marketing platforms).
- Ensuring GDPR compliance and data quality requirements, extensive data lineage monitoring, automated data catalogue production, and data governance operations were implemented.
- Constructed a horizontally scalable microservices architecture on Kubernetes that can accommodate more than 500 users at once with query response times of sub-200 ms and 99.5% uptime.

## **RFM Segmentation Model**

- Conducted RFM analysis on over 100,000 customer records to find high-value categories and create data-driven consumer personas using Python/SQL
- Created a framework for A/B testing and targeted marketing strategies that increased customer lifetime value by 20% and improved conversion rates by 15%.
- Developed dynamic Power BI dashboards and shared findings with stakeholders impacting decisions about the distribution of \$500k in marketing funds.

## **Student Performance Analytics**

- Created an HR analytics platform using Python-based ETL pipelines to combine payroll, performance, and HRIS data.
- Using gradient boosting and natural language processing, predictive models for attrition (85% accuracy), promotion readiness, and skill-gap analysis were created.
- Power BI dashboards, including headcount trends, diversity measures, salary insights, and succession planning for a workforce of more than 5,000 employees, were created for HR leadership.
- Proactive talent management was made possible by the implementation of automated reporting workflows, which decreased weekly human HR effort by about 30 hours

## **AI powered fraud detection system**

- Created a complex ensemble model that reduced false positives by 50% while attaining 98% precision and 94% recall by mixing Random Forest, XGBoost and neural networks with extensive feature engineering.
- Apache Kafka and microservices were used to implement a high-performance real-time inference pipeline that processed 10,000+ transactions per second with a latency of less than 100 ms.
- Created an explainable AI dashboard that allows fraud analysts to comprehend model decisions in real time and ensures regulatory compliance with SHAP values and feature importance visualization.

## **Customer Churn Prediction Model**

- Created a predictive classification model with 85% accuracy and a 0.89 AUC score to identify at-risk clients using logistic regression and gradient boosting.
- To increase model performance by 12%, feature engineering was done on customer behaviour data (use patterns, payment history, and support interactions).
- Reduced the churn rate by 18% by implementing an automated monthly scoring pipeline that produced actionable retention tactics for the customer success team.

## **Pet Adoption Matching System**

- Created an SQL database that combines adopter preferences, pet profiles, and past adoption results from several animal shelters.
- Created a collaborative filtering-based Python matching algorithm that increased the number of successful adoption matches by 40%.
- A Power BI dashboard showcasing adoption rates, animal demographics, duration of stay, return rates, and event efficacy was developed for shelters.
- Sentiment analysis using Python was used on applications and post-adoption surveys to improve support services and match criteria.