

Aditya Varma G

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Summary — Data Scientist with 5+ years of experience specializing in fraud detection, risk assessment and trust & safety. Proven ability to develop and deploy machine learning models, perform data-driven risk analysis, and create scalable data products to combat fraud. Expertise in predictive modeling, statistical analysis, and building interactive dashboards to inform critical business decisions. Skilled at collaborating with cross-functional teams to deliver innovative solutions for large-scale data challenges.

Education

Wayne State University

Master of Science in Data Science and Business Analytics (GPA 3.93)

Detroit, MI

Dec 2024

Birla Institute of Technology and science

Master of Science in software Engineering

Pilani, INDIA

Dec 2023

Experience

General Motors

Detroit, MI

Led efforts to build a cutting-edge customer targeting engine, leveraging demographic, vehicle, and online activity data to improve audience performance and media activation strategies.

Data Science Intern

May 2024 – Aug 2024

- Implemented logistic regression as baseline model and advanced machine learning models such as XGBoost, Random Forest, and Neural Networks, achieving 98% accuracy in customer targeting predictions
- Conducted exploratory data analysis (EDA) on 50TB+ customer datasets to identify key drivers of customer behavior, enhancing sales forecasting
- Applied uplift modeling techniques to segment customers effectively, resulting in improved campaign targeting and a \$250,000 annual reduction in operational costs

Infosys

Chennai, INDIA

Spearheaded a team that focused on delivering data-driven solutions to improve transaction analysis and operational efficiency for financial services. Enhanced decision-making by leveraging predictive models and interactive visualizations to provide actionable insights for stakeholders.

Technology Analyst— Natwest Banking

May 2022 – Aug 2023

- Built predictive models using Python and Jupyter Notebooks, achieving 92% accuracy in transaction pattern detection across 1M+ daily banking transactions
- Developed 5 real-time dashboards using Tableau and advanced SQL, ensuring 100% application uptime and enhancing client satisfaction
- Conducted A/B testing and uplift modeling to measure the impact of marketing strategies, enabling data-driven optimization of campaigns

Tata Consultancy Services

Mumbai, INDIA

Promoted twice within three years at TCS for consistently delivering high-impact solutions and exceeding performance expectations. Played a key role in implementing scalable machine learning and risk assessment solutions for financial clients, delivering impactful business insights

System Engineer — Client Risk Assessment Division

Feb 2020 – May 2022

- Designed and deployed machine learning algorithms using Python and AWS, achieving 83% accuracy in client risk assessment models
- Created scalable ETL pipelines with Apache Spark, reducing computational overhead by 25% and optimizing workflows for 50M+ daily transactions
- Developed interactive Power BI dashboards, reducing reporting time by 75% for nine high-profile client companies

Associate System Engineer — Admin Division

Nov 2018 – Feb 2020

- Developed Automated 3 Tableau reports with advanced visualizations, enhancing client satisfaction metrics by 100% through improved decision-making tools
- Optimized 12 database operations using complex SQL techniques, reducing processing time by 20% and improving system efficiency
- Developed data models using Jupyter Notebooks and UDFs for trading analytics, serving 9 client companies

Continued...

Projects

- Fraudulent Transaction Identification Using AI**

Mar 2024 - May 2024

 - Developed and deployed an AI-powered fraud detection system using supervised learning and anomaly detection techniques
 - Implemented multiple classification algorithms (e.g., XGBoost, Random Forest, Logistic Regression) to identify fraudulent transactions in large-scale financial datasets
 - Optimized the XGBoost model using GridSearchCV and early stopping, achieving a 95% accuracy score and minimizing false positives
- Wayne State Mental Health Chatbot Using NLP**

Oct 2024 - Dec 2024

 - Built a mental health chatbot using LLaMA and transfer learning with TensorFlow and Keras for natural language understanding and response generation
 - Fine-tuned the model on Hugging Face mental health datasets, achieving ROUGE-1: 88% and BLEU: 92%
 - Enhanced user interaction with advanced NLP techniques, including attention mechanisms and sequence-to-sequence architecture
- Real-Time Market Data Forecasting (Jane Street Kaggle Competition)**

Nov 2024

 - Designed and implemented a time-series forecasting pipeline to predict responder 6 values from a dataset containing 79 features across multiple time windows.
 - Employed a two-phase approach: model training using historical market data and a forecasting phase with live-streaming test data.
 - Achieved a 7% improvement in prediction accuracy and a 12% reduction in forecast error compared to baseline models using LightGBM, ensuring enhanced stability across diverse market conditions.
- Chronic Disease Analysis in the USA**

Oct 2023 - Dec 2023

 - Conducted exploratory data analysis (EDA) using Plotly-Dash and Tableau to identify trends in chronic disease prevalence across the USA.
 - Developed three regression models in Python to predict youth alcohol consumption rates, achieving an R-squared value of 0.94.
 - Delivered insights through interactive dashboards and statistical models, aiding public health strategy formulation

Skills

- Programming Languages:** Python, SQL (Oracle SQL, MS-SQL), R, Scala, Java
- Data Science & Machine Learning:**
 - Analytical Modeling: Feature engineering, Bayesian inference, Random Forest, Neural Networks, NLP (Named Entity Recognition, Sentiment Analysis)
 - Machine Learning Development Cycle: Development, Deployment, and Monitoring of ML Models
 - Model Deployment: Productionizing Models, Scalability, CI/CD Pipelines, and A/B Testing
 - MLOps: MLFlow, DVC, Jenkins, GitHub Actions, Airflow, Prefect
 - Natural Language Processing (NLP): Text Generation, Sentiment Analysis, Named Entity Recognition
- Big Data:** Apache Spark, Hadoop, Azure Databricks
- Cloud Technologies:** AWS (Lambda, EC2, VPC, CloudWatch, CloudTrail), Terraform, CloudFormation
- Database Operations:** Advanced SQL (CTEs, Window Functions), Query Optimization, ETL Pipelines
- Collaboration Tools:** Confluence, Jira, Microsoft PowerPoint, Technical Documentation
- Soft Skills:** Strong Stakeholder Communication, Critical Thinking, Adaptability, Attention to Detail

Recognitions & Interests

- Recognitions:** TCS Employee of The Month (recognized for 4 months), TCS Outstanding Contributor (recognized by high-value client), 5TH Place in Waynehacks3(Hackathon conducted by Wayne State University)
- Interests:** Professional (Machine Learning Research, Advanced Data Analytics, AI Ethics, Big Data Technologies), Personal (Reading AI Journals, Participating in Hackathons, Data Science Community Forums)