ADITYA KANTH MANNE

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SUMMARY

Experienced Data Science individual with a strong background in building predictive models and streamlining data pipelines. Proven leader in driving actionable insights through advanced SQL, Python, and visualization tools to enhance operational efficiencies, especially within contact center environments. Demonstrate success in guiding teams, improving reporting accuracy, and translating complex data into clear strategies.

SKILLS

- **Data Science & Machine Learning**: Python (Scikit-learn, TensorFlow, NumPy, Pandas), R, Machine Learning, Deep Learning, Time Series Analysis, Model Validation, Statistical Inference, Anomaly Detection, Forecasting.
- **Programming & Scripting:** Python, R, VBA, Shell scripting, C++, Jupyter Notebook, Google Colab.
- **Financial Modeling & Quantitative Tools**: Monte Carlo Simulation, Value-at-Risk (VaR), CVA/DVA, Portfolio Optimization, Regression Modeling, Risk Metrics, PCA, ARIMA, Prophet, GARCH Models.
- **Databases & Cloud:** SQL, MySQL, SQL Server, Oracle, MongoDB, AWS (S3, Lambda, EC2), Azure, Salesforce, Amazon RDS
- **Business Intelligence & Visualization:** Tableau, Power BI, QuickSight, Business Intelligence Tools.
- **Web & Miscellaneous:** Web Scraping (Python, BeautifulSoup. JavaScript), REST APIs, CRM Integration, Agile Methodologies, Confluence, JIRA.

EXPERIENCE

Early Learning Coalition of Flagler and Volusia **Jul 2024 - Present**
Data Analyst and System Administrator *Daytona Beach, FL*

- Developed predictive financial models using multivariate regressions to forecast grant funding trends, provider reimbursements, and enrollment patterns, improving resource allocation accuracy by 30%.
- Built a grant scalability framework combining demographic expansion, economic indicators, and historical funding volatility to score and prioritize programs with the highest growth potential and financial sustainability.
- Designed a multi-stage ETL pipeline to migrate and transform data from a state-owned cloud server to internal enterprise systems and CRM platforms, reducing data processing time by 30% and enabling near real-time analytics.
- Automated scenario-based budget forecasts under economic stressors (e.g., inflation, migration) using Monte Carlo simulations and financial sensitivity analysis, supporting proactive fiscal planning.
- Created dynamic Tableau and Power BI dashboards for C-level stakeholders, visualizing multi-year financial performance, variance analysis, and program-level risk exposures across regions and socioeconomic tiers.
- Implemented automated data quality validation scripts and health monitors for ETL workflows, reducing downtime by 20% and enabling predictive alerts for job failures or schema drifts.
- Optimized SQL database architecture through indexing, normalization, and stored procedures, improving query execution speed by 25% and supporting scalable data modeling pipelines.
- Presented predictive insights and financial risk metrics to cross-functional teams and leadership using data storytelling techniques, directly influencing policy shifts and funding strategy.

Smart Grow Infotech **Feb 2024 - Jul 2024**
Business Intelligence Analyst *Tampa, FL*

- Created live data dashboards using Power BI and Tableau by integrating real-time data with historical records, enabling executives to quickly assess key performance indicators.
- Developed predictive models using scikit-learn and NumPy to identify high-value prospective clients, contributing to a 20% increase in ROI.
- Engineered financial models to analyze customer data and formulate pricing strategies that improved client retention by 15%.
- Automated reporting workflows using Python and SQL, reducing report preparation time by 40% while enhancing data accuracy and operational reporting quality.
- Conducted A/B testing and financial forecasting with TensorFlow, providing actionable insights for strategic client presentations.
- Analyzed market trends and competitor pricing to recommend strategic adjustments, bolstering the company's competitive positioning.
- Collaborated with marketing teams to track customer acquisition metrics, resulting in a 15% improvement in campaign performance.
- Streamlined data integration processes by designing and implementing ETL pipelines, ensuring seamless data flow across systems.
- Presented complex data insights to senior leadership, effectively translating technical findings into actionable business strategies.
- Leveraged interactive data visualization tools to develop dashboards that continuously monitored operational performance, aligning with enterprise objectives.

Forage **Jul 2023 - Oct 2023**

Data Science Intern *Tampa, FL*

- Built machine learning models using scikit-learn and TensorFlow to predict flight surge pricing based on seasonal trends for an airline ticketing system, improving pricing accuracy by 20%.
- Analyzed financial datasets using Python and SQL, performing time series analysis to identify trends and forecast future performance.
- Built financial models using TensorFlow and DAX to predict revenue growth, providing actionable insights for business development strategies.
- Created interactive dashboards in Power BI to visualize financial performance metrics, enabling stakeholders to make data-driven decisions.
- Conducted stakeholder management by presenting findings to senior leadership, translating technical insights into actionable business recommendations.
- Automated financial reporting workflows using Python, reducing manual effort by 30% and improving report accuracy.
- Collaborated with cross-functional teams to develop predictive models for client acquisition, optimizing marketing strategies.
- Performed data wrangling and cleaning using Pandas, ensuring high-quality data for model training and evaluation.
- Utilized scikit-learn to build machine learning models for customer segmentation, improving targeting accuracy by 20%.
- Conducted financial analysis to identify cost-saving opportunities, contributing to a 10% reduction in operational expenses.

Vesper Distributions **Sep 2018 - Nov 2021**

Junior Analyst *Hyderabad, India*

- Built and maintained SQL databases, writing complex queries to extract, transform, and analyze data for business insights.
- Created data visualizations using Tableau and Matplotlib, presenting trends and patterns to stakeholders for informed decision-making.
- Conducted time series analysis to identify seasonal trends, providing actionable recommendations for pricing strategies.
- Automated repetitive data processing tasks using Python scripts, reducing manual effort by 30%.
- Analyzed customer transaction data to identify purchasing behavior patterns, optimizing product placement and promotions.
- Monitored and maintained data pipelines, ensuring timely and accurate data delivery for reporting and analysis.
- Collaborated with cross-functional teams to gather requirements and deliver data-driven solutions aligned with business objectives.
- Provided training and support to team members on data analysis tools and techniques, enhancing overall team productivity.

PROJECTS

Value-at-Risk (VaR) Estimation Model for Multi-Asset Portfolio

- Developed Monte Carlo and Historical Simulation frameworks in Python to compute parametric and non-parametric Value-at-Risk (VaR) for multi-asset portfolios over 1-day and 10-day horizons at 95% and 99% confidence levels, incorporating fat-tailed distributions and volatility clustering.
- Engineered asset return generators using Geometric Brownian Motion, multivariate normal and t-copula dependencies, and Cholesky decomposition to preserve historical correlation structures across equity, fixed income, and FX instruments.
- Simulated 100,000+ portfolio paths using NumPy and Numba-optimized matrix operations for performance, computing risk metrics such as Conditional VaR (CVaR), percentile loss, skewness, kurtosis, and drawdown under various stress testing scenarios.

Counterparty Credit Risk Model using CVA & DVA Adjustments

- Engineered a counterparty credit risk model to compute Credit Valuation Adjustment (CVA) and Debit Valuation Adjustment (DVA) using risk-neutral exposure profiles generated through Monte Carlo simulation of forward valuation paths for OTC derivatives, including interest rate swaps and FX forwards.
- Modeled counterparty default probability using bootstrapped hazard rates derived from CDS term structures, and applied survival probability curves to discount expected exposure (EE) and expected positive/negative exposure (EPE/ENE) under ISDA netting agreements and collateral thresholds.
- Implemented numerical integration techniques for CVA/DVA pricing across simulated exposure paths and time buckets, and validated model outputs via benchmarking against analytical approximations (e.g., Black-Scholes CVA under zero-correlation assumption) and sensitivity analysis to credit spreads, volatilities, and correlation shifts.

Fraud Detection in Financial Transactions Using Anomaly Detection

- Developed a modular Python-based market risk engine to compute portfolio-level sensitivities (Delta, Gamma, Vega) across asset classes including equities, rates, and commodities using finite-difference and automatic differentiation techniques.
- Integrated historical and hypothetical stress scenarios (e.g., 2008 GFC, COVID crash) with dynamic factor shocks (interest rate curves, FX volatility surfaces, equity correlations) to simulate P&L impacts and generate comprehensive stress matrices.
- Constructed interactive Power BI dashboards for risk visualization, including scenario-specific VaR breaches, factor contribution breakdowns, and portfolio rebalancing strategies under multi-factor stress conditions.

EDUCATION

University of South Florida-Tampa **Jan 2022 - Dec 2023**

Master of Science-Engineering Management

- **GPA:** 3.83/4

Jawaharlal Nehru Technological University **Aug 2016 - Nov 2020**

Bachelor of Technology-Mechanical Engineering

- **GPA:** 3.45/4