VIJAY CHANDRA ATHELI

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EDUCATION

Northeastern University Boston, MA

D'Amore-McKim School of Business - Master of Science in Business Analytics *2024 – 2025 (Expected)*

- *D'Amore-McKim Achievers Scholarship Awardee*
- *Relevant course work: Machine Learning, Statistical Modeling, Data Wrangling & Mining, Linear Programming, Business Analytics Strategy, Data Visualization, Big Data Analytics, Operations Management, Decision Modeling, Monte Carlo simulations*

Chaitanya Bharathi Institute of Technology Hyderabad, TG, India

Bachelor of Engineering in Electrical and Electronics Engineering *2017 – 2021*

PROFESSIONAL EXPERIENCE

FourBlock - Veteran Career Readiness Boston, MA

Analytics Intern *Jan 2025 – Apr 2025*

- Analyzed alumni and donations data of FourBlock organization to evaluate the firm's impact and effectiveness.
- Utilized SQL, Python, and Tableau to extract, validate, and analyze 5 years of Cloud data; applied unsupervised machine learning techniques for key performance indicators (KPIs) detection and wrangled time-series data to remodel and visualize key metrics.
- Presented KPIs to firm leadership, delivering an executive summary outlining the value proposition and strategy to engage donors and increase veteran enrollment.

Deloitte Consulting USI Hyderabad, TG, India

Business Analyst *2021 - 2024*

- Developed and delivered Salesforce CRM solutions to optimize sales operations, redefining work flows, improve system performance, and enable data-driven decision-making for a major US Insurance client.
- Engineered and optimized code frameworks applying advanced query optimization techniques and implementing business-centric models, resulting in a 20% reduction in SQL counts for asynchronous transactions and a 10% reduction in synchronous transactions improving transactions processing time.
- Automated Sales Plannings from Excel to Salesforce using Flows, LWC, and Batch Apex, driving efficiency gains by reducing user time and enabling real-time data access for enhanced decision-making and data-driven strategy.
- Honors: Deloitte's Applause Award (Oct 2022), Spot Awards (May 2023, Dec 2023 and May 2024).

PROJECTS

Multi-Brand ML Prediction Engine

- Developed ML solution predicting used car prices across multiple brands using Python (Pandas, scikit-learn, joblib), optimizing regression models (LR, Decision Tree, Random Forest) for 9 car brands on performance metrics.
- Engineered comprehensive data pipeline handling categorical features via one-hot encoding, managing missing values, and transforming vehicle data into model-ready features for accurate price prediction.
- Designed modular architecture with automated evaluation procedures ensuring prediction reliability, and built interactive web application enabling users to input vehicle specs for instant price estimates.

Short-Term Rental Market Analytics Dashboard

- Cleaned and integrated listings and reviews datasets using Python and Excel, resolving inconsistencies and preparing structured inputs for analysis.
- Performed sentiment analysis on customer reviews and visualized booking trends, pricing strategies, and host behaviors using Tableau (heatmaps, bubble charts, word clouds).
- Delivered a dynamic, filter-enabled dashboard with geospatial mapping and key insights on occupancy, host trust factors, and profitability strategies for short-term rental platforms.

Sales Forecasting & Revenue Modeling

- Built a multiple linear regression model to quantify the impact of live music events and weekend status on daily revenue at Ledge Brewing Co., alongside applying Random Forest and Decision Tree models to forecast sales based on weather patterns using local and Boston-based weather APIs.
- Integrated and analyzed structured datasets from music event logs, weather feeds, and sales records to identify key drivers of customer turnout and revenue fluctuations.
- Delivered actionable insights—such as weather-informed promotions and optimized music scheduling—to improve operational planning and maximize weekend revenue.

Retail Analytics and Business Insights

- Analyzed customer and transaction data from a large U.S. apparel and accessories retailer using Python (Pandas, NumPy) and Excel, performing data cleaning, exploratory data analysis (EDA), and feature engineering to uncover trends in customer behavior, sales patterns, and inventory demand.
- Built regression models (linear programming) using R and Python to predict future sales and product demand.
- Developed interactive dashboards and visualizations using PowerBI (heatmaps, scatter plots, sales time-series analysis)

Impact of Students on Boston Housing Market

- Analyzed the relationship between student density and housing price fluctuations in Boston.
- Cleaned and preprocessed multi-year datasets using Python; built and evaluated multiple linear regression and decision tree models, addressing multicollinearity (VIF), residuals, and model fit; visualized trends with Seaborn and Matplotlib.
- Uncovered key correlations and actionable insights into housing market trends influenced by student populations.

Credit Risk Assessment

- Analyzed large financial datasets using Python and SQL, performing data cleaning, exploratory analysis, and feature engineering to identify key loan default risk factors.
- Built ML models achieving 85% accuracy in predicting loan default risk and improving lending decisions.
- Developed interactive Power BI dashboards to visualize credit risk scores for real-time decision-making.

Predictive Modeling for Patient Outcomes

- Developed and optimized machine learning models (Random Forest, XGBoost) to predict patient hospitalization and mortality risk, reaching an AUC of 0.89.
- Engineered patient-level features (demographics, comorbidities, lab values) and applied imputation strategies to address missing clinical data, boosting model integrity.
- Visualized key risk drivers using Tableau dashboards, enabling actionable insights for proactive patient care.

Healthcare Claims Data Analysis

- Analyzed a large-scale medical claims dataset using Python and SQL, conducting data cleaning, exploratory analysis, and identifying trends in claim approval/rejection patterns to optimize claims processing.
- Built ML models (Logistic Regression, Random Forest) to predict claim approval likelihood.
- Developed interactive PowerBI dashboards to present insights on claim discrepancies and operational inefficiencies.

Player Performance Prediction in Sports

- Analyzed historical player performance data using Python, performing data cleaning, exploratory analysis, and feature engineering to identify key factors influencing player performance.
- Built ML models (Random Forest) to predict player performances, achieving 80% accuracy in forecasting points scored and contributing to player evaluation and game strategy optimization.
- Developed interactive Tableau dashboards to visualize player performance trends, predictive insights, and performance metrics for coaches and analysts to make data-driven decisions.

Data Profiling, Transformation, and Automation

- Developed a comprehensive data pipeline to enhance data quality and support advanced analytics. Integrated complex SQL commands to build a robust database schema and perform advanced data manipulations; utilized Python (Pandas, Numpy, BeautifulSoup) and Alteryx for data profiling, cleansing, validation, and transformation.
- Produced comprehensive reports that improved dataset integrity and supported data-driven decision-making.

Database Design and Integration for Educational Institutes

- Designed and integrated a centralized database system for managing student enrollment and campaign data, ensuring data consistency and integrity across multiple datasets using Google AppSheet.
- Developed dynamic views and slices (e.g., location-based distribution, status-based filters) to enhance data accessibility and real-time reporting, improving decision-making efficiency.
- Implemented offline data capture and synchronization, optimizing the system for field representatives with limited connectivity, ensuring up-to-date records and seamless data entry.

TECHNICAL SKILLS

- **Programming Languages:** Python, SQL, R, Java, Apex, LWC, JavaScript, HTML, CSS
- **Data Visualization and Integration Tools:** Alteryx, Tableau, PowerBI, CRMA Dashboards
- **Data and Machine Learning:** Oracle SQL, Salesforce Clouds, Python (pandas, numPy, scikit-learn, TensorFlow, PyTorch)
- **Data Science and Miscellaneous Technologies:** A/B testing, ETL, Data science pipeline (cleansing, wrangling, visualization, modelling, interpretation), Statistics, Time series, Experimental design, Hypothesis testing, OOP, APIs, AutoRabit, Copado, Jira, Confluence, Lucidchart, Excel (v-look-up, pivot tables, charts, graphing), PowerPoint, Word

LEADERSHIP ROLES

Graduate Career Center Advisory Board Member - D'Amore-McKim School of Business *2025 - Present*

- Advocated and rolled out innovative career development workshops, increasing student participation and engagement.

Executive Board Member/Co-Ordinator - Chaitanya Bharathi Cultural Club *2017 - 2020*

- Supervised comprehensive event management, planning, promoting and securing sponsorships to execute fest activities.