

AJAY KARTHICK

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EDUCATION

Northeastern University, Boston, MA Dec 2025
D'Amore-McKim School of Business | Candidate of Master of Science in Business Analytics| CGPA: 3.7/4

SRM University, Chennai, Tamil Nadu, India May 2022
Bachelor of Technology | Specialized in Electronics and Communication Engineering | CGPA: 7.76/10

PROFESSIONAL EXPERIENCE

Life Science Cares, Boston, MA July 2025 – August 2025
Business Analyst Intern

- Standardized internship performance metrics (placement, retention, employer engagement) across cohorts and built an LLM-based automation pipeline (Claude) that reduced manual data cleaning time by 40%.
- Engineered an automated analytics dashboard to monitor intern outcomes and employer participation, replacing manual reporting workflows and streamlining board-level updates.
- Orchestrated an AI-driven research pipeline to ingest and synthesize external labor market data, pinpointing critical skill gaps to optimize program outcomes and employer alignment.

FourBlock, New York, NY January 2025 – April 2025
Business Analyst Intern

- Engineered a longitudinal impact framework within Salesforce to quantify veteran career progression, validating a 47% increase in interview confidence, 40% in salary negotiation skills, and 35% in career clarity across readiness benchmarks.
- Developed a Python-based sentiment analysis script that converted 1,200+ written veteran survey responses into measurable insights, eliminating manual review processes and enabling data-driven program validation for leadership.
- Rebuilt the alumni survey into a condensed, data-backed format that removed redundant questions; proved through data analysis that the shorter version maintained high-quality tracking of employment outcomes while increasing user participation.

Golden Eyes Garments, Tirupur, Tamil Nadu, India July 2022 – July 2024
Data Analyst

- Conducted comprehensive workflow mapping and bottleneck identification through stakeholder interviews and daily output analysis; implemented data-driven process changes that increased manufacturing efficiency by 12%.
- Facilitated requirement elicitation sessions with inventory managers to develop predictive demand models, reducing excess stock by 18% and significantly optimizing working capital.
- Led the end-to-end lifecycle from requirement gathering to User Acceptance Testing (UAT) for automated Tableau and Excel dashboards, eliminating 15 hours of manual reporting per week.

PROJECTS

Security Guard Wage Prediction Model – Contextual.io, Guilford, Connecticut Fall 2025

- Built an XGBoost model to predict security guard wages across 600+ U.S. locations, achieving an $R^2 = 0.85$ and a Mean Absolute Error (MAE) of 0.90.
- Engineered a robust data pipeline using APIs to ingest real-time external indicators, including state minimum wages and local crime indices; synthesized these with 22,000+ internal payroll records to isolate primary economic drivers.
- Leveraged SHAP analysis to quantify the impact of individual features, providing stakeholders with a transparent "importance map" that streamlined the integration of top-performing variables into the company's production systems.

Weather-Driven Revenue Forecasting – Ledge Brewing Co, Intervale, NH Spring 2025

- Combined 3 years of POS data with weather data with external weather metrics using the Weather API for both New Hampshire and Boston; identified that Boston weather was the primary predictor for whether regional customers traveled to the brewery.
- Demonstrated that live music weekends produced 3.5x higher revenue than standard weekdays, attributing an average uplift of \$1.6K specifically to music and \$2.4K to weekend seasonality.
- Developed a Random Forest forecasting model that improved prediction accuracy from 70% to 88%, achieving an R^2 score of 0.88 by incorporating weather patterns from customers' points of origin.

TECHNICAL SKILLS

- Programming & Databases:** Python (Pandas, Scikit-learn, NumPy), SQL (Snowflake, Databricks, PostgreSQL), R, Git.
- Machine Learning & Statistics:** XGBoost, Random Forest, Time-Series Forecasting, Feature Engineering, Multivariate Regression, SHAP (Explainable AI).
- AI & Automation:** Azure AI Foundry, Prompt Engineering, AI Agent Orchestration, REST APIs, NLP (Natural Language Processing), Data Pipeline Engineering.
- Business Analysis & Strategy:** Requirement Elicitation, Stakeholder Management, Gap Analysis, User Story Mapping.
- Visualization & Business Intelligence:** Tableau, Power BI, Advanced Excel (VBA, Power Pivot), Dashboard Automation.
- Tools & Frameworks:** Jupyter Notebooks, VS Code, Jira, Confluence, Salesforce Integration.