

YUSUF MUSA

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SUMMARY

Machine Learning Scientist with **4+ years** of experience designing causal inference studies, building production ML models, and translating statistical findings into business recommendations across pricing, financial services, and consumer technology.

PROFESSIONAL EXPERIENCE

- Capital Group | AI/ML Engineer** | *Los Angeles, CA* **June 2024 – Present**
- Applied **difference-in-differences** framing to evaluate the causal impact of risk threshold and monitoring policy changes on downstream alert quality, reviewer workload, and false positive rates distinguishing true policy effects from secular trends in transaction volume.
 - Led end-to-end redevelopment of an analytics platform serving **10** quantitative risk analysts, engineering **20+** features for factor modeling, risk attribution, and scenario analysis while optimizing Python and **SQL** pipelines to improve data processing speed by **20%**.
- UC Berkeley Research | Research Data Scientist 2** | *Berkeley, CA* **Aug 2023 – June 2024**
- Translated open-ended research questions into structured causal and predictive analytical plans, shifting the team from basic regression to stronger ML methods including gradient boosting and classification, improving predictive accuracy by **35%**.
 - Built structured model evaluation pipelines including benchmark design, output comparison, and performance tracking across experiments establishing reproducible measurement infrastructure adaptable to production deployment.
- Salesforce (Slack Inc.) | Data Scientist Intern** | *San Francisco, CA* **May 2022 – Aug 2022**
- Designed and analyzed pricing experiments using quasi-experimental and randomized approaches to measure the causal impact of discount strategies on subscription conversion among targeted user segments.
 - Built and evaluated predictive models on experiment data to recommend more efficient pricing and discount strategies, outperforming untargeted discounting approaches and informing product-led expansion decisions.
- Nextier Group | Data Scientist** | *Abuja, NG* **Jan 2018 – Jul 2021**
- Developed statistical and machine learning models for classification, regression, and forecasting on observational datasets, delivering evidence-based strategic recommendations to government and institutional clients.
 - Designed interactive dashboards in Plotly and Tableau to track KPIs and communicate statistical findings including uncertainty and limitations to senior leadership and non-technical stakeholders.

TECHNICAL SKILLS

Languages: Python (**6+ years**), SQL, PySpark, R, Shell Scripting

Data Science: Statistical Forecasting, Time-Series Analysis, Operations Research, Capacity Planning, A/B Testing, Predictive Modeling, Optimization, Regression, Gradient Boosting, Explainable AI.

Tools & Frameworks: scikit-learn, PyTorch, statsmodels, Prophet, Pandas, NumPy, SciPy, Plotly, Tableau, FastAPI, pytest.

Data & Infrastructure: Apache Spark, Databricks, AWS, SageMaker, Snowflake, Docker, Kubernetes, API Deployment.

SELECTED PROJECTS

- ML-Discount: Personalized Pricing Optimization** | *Python, SQL, A/B Testing, scikit-learn*
- Led 0-to-1 development of ML-Discount, a personalized pricing system for Slack's growth team, designed to increase subscription conversion by matching users with optimal discount offers based on predicted price sensitivity.
- Upworthy Headline A/B Test Analysis** | *Python, Statistical Analysis, Feature Engineering, A/B Testing*
- Analyzed 30,000+ randomized headline A/B experiments from the Upworthy Research Archive (2013–2015) to identify causal drivers of user engagement across impressions, clicks, and CTR.

EDUCATION

University of California, Berkeley **Aug 2021 – May 2023**
M.S. in Information Management & Systems with Honors (Data Science Concentration).

- Relevant Coursework: Applied Machine Learning, Statistics, Natural Language Processing, Optimization.

Bayero University, Kano **Sep 2014 – Jan 2018**
B.S. in Computer Science; Minor in Economics | Commonwealth Scholar.