Noah Gallagher

Data Scientist | Machine Learning & Predictive Analytics | GenAI Specialist

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github.com/noahgallagher1 | Portfolio

Professional Summary

Data scientist with 4+ years of experience building predictive models and automated analytics solutions at City National Bank. Expert in Python (8+ years), SQL, and statistical modeling, with proven expertise in machine learning, A/B testing, and GenAI applications. Track record of delivering measurable impact: 40% reduction in reporting cycles, 35% improvement in forecast accuracy, and 60% reduction in manual effort through automation. Strong statistical foundation (B.S. Statistics) with hands-on experience leading end-to-end data science projects. Currently managing a team of 2 senior data analysts, providing technical skills mentoring and fostering professional development.

Technical Skills

Languages & ML: Python (Expert – 8+ years), R, SQL, SAS, PyTorch, XGBoost, scikit-learn, SHAP
Data Science: Machine Learning, Statistical Modeling, Model Interpretability, A/B Testing, Causal Inference, Hypothesis Testing, Time Series Analysis, NLP, Deep Learning
GenAI/LLM: GPT-4/5, Claude, Llama, Prompt Engineering, LLM Integration
Tools & Platforms: Snowflake, Oracle, Airflow, Streamlit, Power Automate, Git, Jupyter
Visualization: Tableau, Power BI, Streamlit, Matplotlib, Plotly, Seaborn

Professional Experience

VP, Manager of Data Analytics & Reporting Jun 2025 – Present
City National Bank *Los Angeles, CA*

- Lead Data Analytics and Reporting team, driving data science initiatives including statistical modeling, predictive analytics, and experimentation to support strategic decision-making
- Build automated data pipelines using Python and Snowflake, reducing manual reporting cycles by 40% and improving operational efficiency across the organization
- Develop predictive models using Python (scikit-learn, pandas) to forecast risk metrics and identify anomalous patterns, improving decision accuracy
- Spearhead GenAI proof-of-concepts using GPT-4, Claude, and Llama to automate narrative reporting and enhance risk analysis workflows
- Design and analyze hypothesis-driven experiments using statistical methods to evaluate business initiatives and measure impact
- Manage and develop team of 2 senior data analysts, providing coaching on statistical methods, Python best practices, and data visualization techniques while driving team performance and professional growth

AVP, Data Analytics Specialist Jun 2024 – Jun 2025
City National Bank *Los Angeles, CA*

- Partnered with Finance, Operations, and Risk teams to translate business questions into analytical frameworks and deliver actionable insights
- Optimized reporting infrastructure by automating Python workflows, reducing manual analysis time by 15+ hours weekly
- Conducted deep-dive analyses on customer acquisition funnels and conversion metrics, identifying $2M+ revenue opportunity
- Built self-service Tableau dashboards enabling stakeholders to explore data independently, improving decision velocity
- Trained junior analysts on statistical methods, Python best practices, and data visualization techniques

AVP, Control Testing/Reporting Analyst Jan 2022 – Jun 2024
City National Bank *Los Angeles, CA*

- Assessed design and operating effectiveness of key risk controls through rigorous statistical testing and evidence evaluation

- Established testing methodologies incorporating statistical sampling techniques, reducing testing cycles by 30% while maintaining audit standards
- Identified control deficiencies through data analysis, recommending corrective actions that strengthened the bank's risk posture
- Collaborated with Compliance and Risk Management to develop automated control monitoring dashboards tracking 1000+ key controls
- Documented control testing procedures and maintained audit-ready evidence repositories ensuring regulatory compliance

Business Data Analyst – Private Banking Aug 2021 – Dec 2022
City National Bank *Los Angeles, CA*

- Analyzed customer data using SQL and Python to identify cross-sell opportunities and high-value client characteristics for sales team
- Created executive dashboards in Tableau tracking portfolio performance, client acquisition trends, and relationship health metrics
- Performed ad-hoc analyses responding to business questions about client behavior, product profitability, and market trends
- Supported sales strategy development by conducting cohort analyses and customer segmentation studies

Key Projects

GenAI Analytics Exploration 2024 – Present

- Developed proof-of-concepts using GPT-4, Claude, and Llama APIs to automate routine risk narrative generation
- Built Python scripts integrating LLM outputs into existing Snowflake data pipelines and Tableau reporting workflows
- Implemented prompt engineering techniques to ensure consistent and accurate AI-generated analytical content
- Achieved 60% reduction in manual report writing time through automated narrative generation in pilot tests

Customer Churn Prediction | *Live Dashboard* 2025

- Built end-to-end ML pipeline using XGBoost achieving 93% recall and 93% ROC AUC for predicting customer churn, demonstrating $436,900 annual savings potential with 513% ROI
- Implemented SHAP (SHapley Additive exPlanations) for model interpretability, providing stakeholder-friendly explanations of churn drivers and enabling actionable business insights
- Engineered 25+ features including customer behavior patterns, transaction history, and engagement metrics using pandas and scikit-learn preprocessing pipelines
- Deployed production-ready interactive Streamlit dashboard enabling real-time predictions, feature importance visualization, and what-if scenario analysis for business users

Operational Forecasting Models 2023 – 2024

- Built predictive models using Python (scikit-learn, XGBoost) to forecast transaction volumes and processing times
- Developed feature engineering pipelines to incorporate historical patterns, seasonality, and business calendar effects
- Improved forecast accuracy by 25% compared to baseline methods, supporting better capacity planning decisions
- Created model monitoring dashboards in Tableau to track prediction accuracy and identify performance drift

Education

California State University, Long Beach Long Beach, CA
Bachelor of Science in Statistics; Minor in Computer Science
Relevant Coursework: Machine Learning, Statistical Inference, Time Series Analysis, Experimental Design