

# Colby Reichenbach

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## SUMMARY

A detail-oriented data professional with an analytical mindset grown through biological and data studies at UNC-Chapel Hill, cultivating a hypothesis-driven approach to problem-solving. Proficient across the full analytics stack (Python, SQL, visualization tools), showcased in a portfolio of end-to-end projects. Demonstrates data science and GenAI capabilities through the integration of MLOps pipelines and generative AI into project workflows, optimizing models and results for specific business needs. Seeking to apply these skills to solve complex challenges and drive results for a data-driven team.

## SKILLS

- **Languages & Tools:** Python, SQL, Git, Tableau, Microsoft Office Suite, LLM / Generative AI Integration
- **Machine Learning & Data Science:** Predictive Modeling, Statistical Algorithms, Reinforcement Learning (Multi-Armed Bandits), A/B Testing, Feature Engineering
- **Python Libraries:** Pandas, NumPy, Matplotlib, Seaborn, Plotly, Scikit-learn, Streamlit, XGBoost
- **Professional Skills:** Business Insights, Cross-Functional Communication, Data-Driven Decision Making, Problem-Solving, Project Management

## EDUCATION

**University of North Carolina at Chapel Hill**

August 2024

*Bachelor of Science in Biology, Minor in Data Science*

## PROJECTS

### Proactive Retention Agent: MLOps & GenAI Pipeline

- Engineered an end-to-end MLOps pipeline using Docker and FastAPI to serve a containerized XGBoost churn model, optimized for Recall (69%) to minimize high-cost False Negatives.
- Integrated Google Gemini 2.0 Flash Lite API to classify unstructured complaint text, automating sentiment and theme analysis to provide "why" context for churn risk.
- Developed an orchestration script that generates a daily, prioritized analyst list based on a Priority Score to maximize revenue retention efforts.

### **Marketing Campaign Optimization**

- Applied basic statistical methods (A/B tests) to compare ad creatives, communicating findings on top-performing variants based on CTR, conversion rates, and CPC.
- Developed and simulated advanced machine learning algorithms (Epsilon-Greedy & Thompson Sampling) to create a new, scalable solution for real-time campaign profit maximization.
- Created a Streamlit dashboard for running experimental-model analyses, allowing stakeholders to visually compare the financial return of adaptive algorithms against traditional A/B testing.

### E-Commerce Analytics Dashboard

- Designed and built an internal dashboard to transform 2.5 years of sales, customer, and product data into actionable intelligence for an e-commerce business.
- Wrote parameterized SQL queries to compute core business KPIs (revenue, AOV, customer activity) from transactional tables.
- Implemented query-level optimization by triggering data pulls only on page selection and date-range input, enabling scalable performance as the database grows.

## PROFESSIONAL EXPERIENCE

**Target, Team Member**, Chapel Hill, NC

Nov. 2021 – Pres.

- Executed daily and weekly price changes with high accuracy, ensuring pricing alignment between shelf labels and the store's financial database to mitigate revenue loss.
- Maintained precise inventory levels through regular cycle counts and system reconciliation, identifying and addressing discrepancies to prevent financial loss from inaccurate stock records.