

# Matthew Abatangle

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## EDUCATION

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### University of Colorado Boulder

May 2027 (Expected)

*Bachelor of Science in Information Science, Minor in Business*

*GPA: 3.7*

## EXPERIENCE

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### Undergraduate Research Assistant

Feb 2026 – Present

*University of Colorado Boulder*

*Boulder, CO*

- Design and implement automated Python data pipelines to process multi-semester anonymized attendance, grade, and survey data
- Conduct statistical data analysis across 10+ course sections and 1000+ students to quantify relationships between attendance modality, academic performance, and satisfaction
- Translate complex statistical findings into clear outputs for faculty stakeholders and academic publication

### Software Engineering Intern

June 2025 – Present

*University of Colorado Boulder*

*Boulder, CO*

- Develop and maintain 10+ automated test scripts using Pytest and Selenium to validate web application functionality
- Participate in Agile sprint planning and task tracking using Jira to support iterative QA cycles
- Collaborate with developers to improve test coverage and ensure quality standards in production

### Vice President, INFO Buffs

Jan. 2025 – Present

*University of Colorado Boulder*

*Boulder, CO*

- Lead initiatives to connect students with opportunities in information science, data science, and UX/UI
- Organize events, workshops, and networking opportunities to foster professional growth
- Collaborate with industry professionals and faculty to expand resources for members

## PROJECTS

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### Olist E-Commerce Delivery Prediction | *Jupyter, MySQL, Python, scikit-learn*

Sept 2025 – Oct 2025

- Queried and cleaned 100k+ Brazilian e-commerce orders using SQL and Python to uncover delivery delay patterns
- Built a logistic regression model achieving 80.8% accuracy and +26% precision improvement after threshold tuning
- Performed precision-recall analysis to select the optimal cutoff point, balancing model interpretability with operational reliability

### Hip-Hop NLP & Sentiment Analysis | *Jupyter, Python, SQLite, NLTK*

Oct 2025 – Jan 2026

- Engineered end-to-end NLP pipeline integrating Spotify, Genius, and YouTube REST APIs to collect and store 57 songs and 5,000+ fan comments in a normalized SQLite database via automated ETL
- Developed custom phonetic complexity metrics (rhyme density, syllable variance, stress variability) using NLTK and CMU dictionary; applied VADER sentiment analysis to quantify fan engagement patterns
- Identified divergent lyrical complexity-popularity correlations ( $r = +0.43$  vs  $-0.18$ ) and visualized temporal trends across artist careers using Matplotlib

### Ad Campaign Analytics | *Jupyter, MySQL, Python*

Sept 2025 – Oct 2025

- Analyzed Adsphere campaign data to evaluate how advertisers' structure and ad volume influence performance
- Wrote and executed 10+ SQL queries (JOIN, CTE, INTERSECT) to aggregate metrics and identify ROI trends
- Built visualizations (Seaborn, Matplotlib) linking ad volume, spend, and conversion rate for performance insights

## TECHNICAL SKILLS

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**Languages:** Python, Java, C++, SQL, HTML/CSS, Markdown

**Frameworks:** Microsoft Excel, Tableau, Google Suite, Jekyll

**Developer Tools:** GitHub, Git, Jupyter, VS Code, Jira, Chrome DevTools, Postman

**Libraries:** Pandas, NumPy, Matplotlib, Seaborn, PyTest, Selenium, scikit-learn, PyTorch, NLTK

**Methodologies:** Agile (Scrum), Test-Driven Development (TDD)

**Other Skills:** UI/UX Design Principles, Data Cleaning, API Testing, Data Visualization, Technical Writing

**Relevant Coursework:** Python Programming, C++ Programming, Data Structures, Designing User Interactions, Applied Machine Learning, Information and Data Retrieval Systems, Fundamental Concepts in Data Science