David J. Hansen

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EDUCATION

Bachelor of Science   December 2025
Brigham Young University - Idaho   *Idaho (BYU-I)*
Bachelor of Science in Data Science, Minor in Mathematics.

SKILLS

- Programming & Tools: Python (Pandas, Scikit-learn, PySpark, Polars), R, SQL, Git/GitHub, Databricks, Streamlit App Development, Excel.
- Data Science & Analytics: Machine Learning, NLP, Data Wrangling, Predictive Modeling, Feature Engineering, Data Visualization.
- Mathematics: Linear Algebra, Regression Analysis, Partial Differential Equations, Statistical Tests.
- Soft Skills: Critical Thinking, Personal Communication, Mentoring, Problem Solving, Attention to Detail.

ACADEMIC PROJECTS

Convenience Store Predictive Sales Model.   January 2025
- Engineered features on Databricks with PySpark to predict beverage sales for Idaho convenience stores.
- Performed geospatial joins between store data and Census data; applied window functions to capture product trends.
- Delivered Streamlit dashboard with KPIs and sales trends, preparing data pipeline for ML training.

Political Science Email Database   July 2025
- Built a pipeline to generate and verify email addresses for government employees from scraped names.
- Applied Python, Polars, and SMTP protocols to test and filter out invalid records, and spam-blocked domains.
- Optimized search space from 45M+ potential emails to ~100k by designing a sampling strategy of 50 employees per domain

Real Deals Home Décor Shopify Metrics   June 2025
- Partnered with a local retailer to analyze store inventory and generate custom performance reports.
- Queried Shopify data with GraphQL, flattened nested JSON using Python, and integrated metrics on product shelf duration.
- Identified items unsold for more than 1,000+ days, enabling clearance sales and freeing shelf space.

Clone Hero Auto Charter   July 2025
- Designed a custom pipeline to align audio data with chart files and feed into a Transformer model for guitar note prediction.
- Implemented preprocessing with Python, Librosa, Polars, and PyTorch; trained locally with NVIDIA tools.
- Trained on ~1,000 songs, achieving baseline predictions on unseen charts while identifying optimization needs for accuracy.

EXPERIENCE

Math Tutor   2020 - Present
Private Tutor, Mathnasium, BYU-I Mathlab, Teaching Assistant   *Rexburg, ID*
- Tutored high school, college, and elementary students in algebra, calculus, and statistics.
- Delivered personalized learning plans and virtual/in-person sessions and helped a student get a GED.
- Taught diverse learners with a strong focus on building foundational and advanced math skills.