

# Scott Townsend

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## EDUCATION

### Brigham Young University-Idaho

Bachelors of Science: Data Science

Minor: Statistics

Rexburg, ID

April 2022 - April 2025

## SKILLS

**Technical Skills** - Machine Learning, Big Data Programming, Linear Regression, Statistical Modeling, Data Wrangling & Visualization, Programming in Python, Data Science Programming, Data Intuition and Insight

**Data Visualization:** Expertise in Tableau, Looker Studio, and Power BI for interactive dashboards and insights communication.

**Tools** - VS Code, Databricks, Colab, RStudio, Positron, MySQL, Azure, PostgreSQL, Docker, GitHub, and Git for Version Control

**Libraries & Languages** - *Python:* Polars, Pandas, NumPy, Seaborn, Matplotlib, Plotly, TensorFlow, Keras, PyTorch, PySpark, Scikit-learn *R:* tidyr, dplyr, ggplotly, lubridate, stringr, shiny, ggplot2. *SQL*

**Web Development:** Familiar with Streamlit, HTML, CSS, JavaScript, and C# for web development.

## EXPERIENCE

### Marcus Harris Foundation

Data Entry Analyst, Intern

December 2024-Present

Rexburg, ID

- Harvested data from the IRS tax-exempt organization database, gathering contact information of nonprofit organizations for marketing outreach campaigns.
- Analyzed email marketing campaign data, identifying trends and areas for improvement to enhance user engagement.
- Conducted data-driven analysis to optimize marketing efforts, providing actionable insights to improve campaign performance.

### Brigham Young University - Idaho

Financial and Cost Data Analyst

January 2025-Present

Rexburg, ID

- Financial & Cost Data Analyst – Conducted **cost analysis** and financial forecasting for AI tutor implementation, identifying a cost-saving opportunity by optimizing TA and AI model usage.
- Data-Driven Decision Making – Provided **financial insights** and recommendations to support university administration in adopting AI-driven academic support while ensuring FERPA compliance and institutional alignment.

## SELECTED PROJECTS

### Streaming Services Data Analysis

January 2025-Present

- Analyzed Netflix, Hulu, Disney+, and Amazon content libraries to uncover trends in movie durations, genres, and ratings using **Polars and Pandas**.
- Visualized insights with **Seaborn, Matplotlib, and Plotly**, including genre popularity, rating distributions, and country-wise content production.
- **Built interactive dashboards** and statistical summaries to explore streaming service content trends and inform data-driven decisions.

### Image Captioning Tool

December 2024-Present

- Developed a deep learning model to generate descriptive captions for images, aiding visually impaired individuals and automating social media captioning.
- Implemented a **Convolutional Neural Network (CNN)** for image feature extraction (VGG16) and a sequence model (LSTM/Transformer) for caption generation.
- Visualized model attention areas with heatmaps and presented insights through data visualizations.

### Student Performance ML Analysis

November 2024-December 2024

- Machine Learning Techniques & Models: Developed and compared **Linear Regression and Random Forest Regressor** models to predict student performance, leveraging cross-validation and GridSearchCV for hyperparameter tuning.
- Data Preprocessing & Feature Engineering: Applied one-hot encoding, standardization (StandardScaler), and created a new average\_score feature to **enhance predictive accuracy**.
- Evaluation & Visualization: Assessed model performance using MSE, R-squared, MAE, RMSE, and **presented insights** with scatter plots, histograms, residual analysis, and **feature importance visualizations** using Matplotlib and Seaborn.