

Joshua B. Cunningham

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EDUCATION

Georgia State University, J. Mack Robinson College of Business, Atlanta, GA

Master of Science in Data Analytics - December 2024

Kennesaw State University, Kennesaw, GA

Bachelor of Business Administration in Management - May 2020

PROJECT EXPERIENCE

Handwriting Recognition Project.

- **Processed images** of handwritten numbers and categorized them to numbered labels.
- Created a **Convolutional Neural Network** to classify digits from images.
- Achieved 99.1% on Recall and Precision for the model

Headline Generation Project.

- Built from scratch a **text summarizer** on newspaper articles in python.
- Implemented using **RNNs** and the use of the **python** library of **NLTK** for preprocessing
- Reduced an article to a 10-word summary used to **generate article headlines**.

Expert Detection for Talent Identification Graph Project

- Focused on detecting who is the most valuable employee of a company
- Used **Betweenness Centrality, Closeness Centrality, and Sheaf Laplacian** to determine most influential employees of a company.
- Showed what would happen if the influential employees were to leave who would be best to fill their positions within the company.

Menu Optimization Project.

- Consisted of **5 million** Yelp reviews
- Ran **Named Entity Recognition** for Food Items mentioned in review
- **Sentiment Analysis** determined which foods were popular to have on a menu as well as which foods should be eliminated from the menu based on restaurant cuisine.

WORK EXPERIENCE

Georgia State University

Graduate Research Assistant

Atlanta, GA

January 2024-May 2024

External Sprint with Toy Manufacturer

- Conducted Industry Market Research for the firm to help plan for future product releases.
- Performed **Web Scraping** on product reviews to perform text analysis and mining for industry research.
- Introduced **Topic Modeling** on various product categories such as Safety, Hygiene, and Durability.
- Reported findings each week to the client to receive feedback for research purposes.
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Emory University

Teaching Assistant

Atlanta, GA

March 2019 – August 2022

Big Data Program and Women in Technology (WIT) Teaching Assistant Atlanta, GA

- Led through establishing statistical models with use of RapidMiner and Microsoft Azure Machine Learning. Methodology used is **CRISP-DM** for business applications.

- Wrote lecture notes before 11 online instructed lab session on methodologies such as (**Regression, Text Mining, K-means Clustering, Neural Networks**, etc.) each certificate period, especially devised to tackle students' problems from in person teachings prior.

SKILL AND SOFTWARE EXPERIENCE

Proficient:

RapidMiner
Statistical Analysis System (SAS)
Python

Familiar:

R Studio
SQL
Neo4J
RAG and GraphRAG
Knowledge Graphs
Large Language Model Creation
GenAI Creation
Graph Neural Networks
Link Prediction
Computer Vision
Named Entity Recognition

Python Libraries:

PySpark
TensorFlow
Pytorch
Sci-Kit Learn
NLTK
NetworkX
Keras