

Andrew Tatum

Hard-working Data Scientist with a background in machine learning and data visualization

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Education

DePaul University, Chicago, IL

Master of Science: Data Science

Concentration: Computational Methods

Relevant Courses Taken: Neural Networks and Deep Learning, Mining Big Data, Data Visualization, Advanced Machine Learning, Database Processing for Large-Scale Analytics, Programming Machine Learning Applications

Anticipated Graduation: August 2022

GPA: 4.0/4.0

Slippery Rock University, Slippery Rock, PA

Bachelor of Science; Major: Exercise Science

Minors: Statistics, Computing

Graduation: May 2020

GPA: 3.7/4.0

Data Science Work Experience

Amazon, Remote

Oct 2020 - Sep 2021

Workforce Analyst

- Managed ad-hoc queries based on business needs
- Provided short term interval staffing requirements based on future and historical data
- Led weekly meetings for higher up business associates
- Created statistical reports for managers based on user needs

Slippery Rock University, Slippery Rock, PA

Aug 2018 - May 2020

Research Assistant

- Performed different lower dimensional analysis techniques like PCA k-means clustering to find relationships between chemical elements in certain rock formations
- Applied different exploratory and statistical analysis on different features within the large database

Data Science Projects

Monte Carlo Algorithms

Jan 2022 - Present

March Madness Monte Carlo Bracket Simulation

- Created multiple Monte Carlo based algorithms to simulate and predict the final results of the 2022 March Madness bracket
- Applied different statistical approaches like Bayesian and Markov Chain
- Relied on randomness by determining the distribution and likelihood of each parameter in the model based on historical data

Intelligent Information Retrieval Systems

Jan 2022 - Present

DePaul Course Catalog Intelligent Information Retrieval System

- Returned the most similar courses offered at DePaul University to the user based on their query after weighting the terms and computing their similarity
- Created web crawler to index the courses from DePaul University's course catalog
- Used a weighting similarity scheme based on the course title versus the course description

Advanced Machine Learning

Sep 2021 - Nov 2021

NBA Player Position Clustering Analysis

- Explored the relationship between a player's position based on game stats, physique, and draft position
- Viewed player positions in two ways: The first as 5 separate positions (PG, SG, SF, PF, C) and the second as three groups (Guards, Forwards, Centers)
- Applied different PCA kernels to the player clusters to try and distinguish the positions in a lower dimensional space

Programming Machine Learning Applications

Mar 2021 - June 2021

Content Based Car Recommender System

- Created two different systems to recommend a car to a user based on 7 different input parameters (year, cost, number of doors, etc...)
- Developed a k-means clustering algorithm where similarity scores were calculated using their Euclidean norm
- Implemented a PCA version (reduced number of features from 50 to 8) to recommend the user a car to compare to the initial model

Advanced Data Analysis

Jan 2021 - Mar 2021

Baseball Hall of Fame Classification Algorithm

- Designed multiple machine learning classification techniques to classify players as HOF inductees
- Used a KNN algorithm with hyperparameter tuning to account for the unbalanced classification labels
- Performed a cluster analysis to see which features hall of fame players had in common

Certifications and Technological Skills

- Microsoft Azure Data Fundamentals DP-900 Date Obtained: **Dec 2021**
- Programming Languages: Python, R, C++, HTML/CSS, SQL
- Data Visualization: Tableau, RShiny, Python Flask, Microsoft PowerBI, Python Seaborn, Python Matplotlib
- Database Management: MySQL, NoSQL
- MS Office: Access, Excel, PowerPoint, Word
- Parallel Computing: Amazon EC2, Hadoop Ecosystem (Hadoop Streaming, PIG, HIVE, Spark, Mahout, Storm, Zookeeper)
- Machine and Deep Learning Libraries: Keras, NumPy, Pandas, Scikit-Learn, TensorFlow
- Web Scraping Dynamic and Static Websites

Personal Skills

- Fluent in English and Spanish
- Public Speaking
- Time Management
- Diligent Worker

Other Work Experience

Soccer Shots, Pittsburgh, PA

Youth Soccer Head Coach

Jan 2019 - Mar 2020

- Instructed children from various backgrounds and age groups to work as a soccer group
- Sustained a safe environment while maintaining an energetic and fun atmosphere
- Participated in volunteer and community engagement events in the greater Pittsburgh area