

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, Monte Carlo Algorithms, Intelligent Information Retrieval, Advanced Machine Learning, Mining Big Data, Programming Machine Learning Applications, Data Visualization, Fundamentals of Data Science, Advanced Data Analysis, Data Analysis and Regression, Database Processing for Large-Scale Analytics

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 - Oct 2021

Work Force 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
- Developed a recommender system to offer courses that are similar based on other courses the user has enjoyed

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
- Programming Languages: Python, R, C++, HTML/CSS, SQL
- Data Visualization: Tableau, RShiny, Python Flask, Microsoft PowerBI
- 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 Learning Libraries: TensorFlow and Scikit-Learn
- Web Scraping Dynamic and Static Websites

Date Obtained: **Dec 2021**

Personal Skills

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

Other Work Experience

Soccer Shots, Pittsburgh, PA

Youth Soccer Head Coach

Sep 2017 - Jan 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