Maxwell Patterson

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SUMMARY

Data Science professional with experience in both client facing and non-client facing roles. Educational background includes an M.S. in Data Science from The University of Texas at Austin, as well as a B.S. in Mathematics and Physics from Dickinson College. Earned a professional certificate in Data Science from Northwestern University and have 7+ years of professional experience in data science and data analysis. Experienced in Python, R, SQL, and Tableau to create full-stack data solutions.

EDUCATION

UNIVERSITY OF TEXAS- AUSTIN
Master of Science, Data Science   May 2024
- **Coursework:** Machine Learning, Probability & Statistics, Data Structures & Algorithms, Causal Inference, Regressions, Advanced Predictive Models, Natural Language Processing, Deep Learning, Data Visualization, Reinforcement Learning

NORTHWESTERN UNIVERSITY
Professional Certificate, Data Science & Data Visualization   February 2020

DICKINSON COLLEGE
Bachelor of Science, Mathematics and Physics   May 2016

TECHNICAL SKILLS

- **Programming**: Python (Pytorch, PySpark, MLflow, LangChain, NumPy, Pandas, Requests, Flask, Scikit-Learn, Matplotlib), SQL (Databricks SQL, PostgreSQL, Microsoft SQL Server), R (ggplot, tidyverse, shiny, tidymodels), JavaScript (Plotly, D3, Leaflet)
- **Machine Learning:** Deep Learning Networks, Random Forests, Principal Component Analysis, K-Nearest Neighbors, K-Means, Regressions, Boosting Algorithms
- **Tools**: Databricks, Posit/RStudio, Alteryx, Tableau, Looker, Jupyter Notebooks, HTML5, CSS3, Git, SQL Server Management Studio, Amazon Redshift

PROFESSIONAL EXPERIENCE

SUFFOLK CONSTRUCTION   Roxbury, MA
Data Scientist   March 2022 – Present
Senior Data Analyst
- Built a smart search LLM chatbot that answers questions about Suffolk standard operating procedures, utilizing RAG architecture for document retrieval and a Shiny app for user interaction
- Created a productionized machine learning model in Databricks using MLflow that identifies construction projects likely to have a safety incident. The fiscal quarter after its initial implementation was the best quarter for incident rates in company history
- Analyzed historical project details to evaluate the company's ability to estimate staffing requirements on construction projects. We uncovered that our underestimations on staffing cost ~$25M in revenue annually
- Built an application using Python and Tableau that shows the People & Culture team the closest employees to potential future job sites in order to assist in staffing teams

ZIPCAR   Boston, MA
Data Analyst   September 2021 – March 2022
- Identified approximately $70 of missing revenue per user in a dbt model that aims to estimate the average user's EBITDA over their first 90 days of membership
- Queried search data to find members in key markets that stopped searching for reservations on Zipcar's app after being active users of the service previously
- Built a Looker dashboard that allowed the billing team to measure success and billing accuracy via relevant KPIs

NIELSENIQ   Chicago, IL
Analytical Framework Consultant   August 2019 – September 2021
- Led project that used Python and SQL to develop a reporting tool hosted at an API endpoint. Using product information from both database and API data sources, this reporting tool had built-in data validation functionality based on defined use cases, and it reduced manual analysis time by 95%
- Researched NielsenIQ product data to create database prototypes based on the needs of retailers and manufacturers in the CPG industry. Met with client SMEs to confirm databases meet contractual requirements
- Member of an efficiency team within the organization that aimed to identify manual processes that could be replaced with Python scripts to reduce the length of product delivery timelines

TRILOGY EDUCATION SERVICES   Chicago, IL
Teaching Assistant, Data Visualization Program   April 2020 – August 2020
- Assisted students in a 24-week boot camp that teaches them Python, SQL, noSQL, JavaScript, Tableau, and machine learning concepts
- Reviewed and graded code submitted by students. Provided feedback in a timely manner

REVENUE SOLUTIONS, INC.   Chicago, IL
IT Consultant   September 2016 – August 2019
Associate IT Consultant
- Received company award for excellence in communication with the client
- Used SQL Server to provide Production support for web applications that improve tax processing efficiency for three separate state, city, and county government agencies
- Frequently led meetings with client teams to discuss progress on product enhancements
- Designed software requirement specifications (SRS) for multiple custom interfaces involving ETL, providing access to more external data for clients

PROJECTS

WORLDWIDE EARTHQUAKE TRACKER
Github Link: https://github.com/mmpatterson/leaflet-earthquake-tracker
Link to Deployed Project: https://mmpatterson.github.io/leaflet-earthquake-tracker/earthquake-tracker/
- A site that displays information for earthquakes that have occurred within the last 7 days
- Using public data, plotted the location of each earthquake on a Leaflet map and scaled its size based on the severity of the event
- The map was created using Leaflet.js, and the API providing the data was made available by the United States Geological Survey