Maxwell Patterson

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SUMMARY

Data Science and Data Visualization professional with a background as an IT Consultant. Earned a certificate in Data Science from Northwestern University and have 4+ years of professional experience in data analysis. Educational background includes a B.S. in mathematics and physics from Dickinson College, and my coursework included calculus, statistics, and analytics. Experienced in Python, SQL, noSQL, and JavaScript to create full-stack applications. Currently attending the University of Texas- Austin in pursuit of an M.S. in Data Science.

EDUCATION

UNIVERSITY OF TEXAS- AUSTIN
Master of Science, Data Science — January 2021 – Present
Cumulative GPA: 3.84

NORTHWESTERN UNIVERSITY
Certificate, Data Science Boot Camp — August 2019 - February 2020

DICKINSON COLLEGE
Bachelor of Science, Mathematics and Physics — August 2012 - May 2016

TECHNICAL SKILLS

- **Programming**: Python3 (Pandas, Scikit-Learn, Matplotlib, NumPy, Seaborn, Flask, Requests), SQL (SQL Server, PostgreSQL), noSQL (mongoDB), JavaScript (Plotly, D3, Leaflet), R
- **Machine Learning:** Decision Trees, Random Forests, Logistic Regression, Linear Regression, Gradient Descent, Stochastic Gradient Descent, Principal Component Analysis, K-Nearest Neighbors, K-Means
- **Statistics:** Maximum Likelihood Estimation, Expectation Maximization, Bayesian Inference, Bootstrapping
- **Tools**: Jupyter Notebooks, Tableau, HTML5, CSS3, Microsoft Office, Microsoft Visio, Microsoft Visual Studio, Git, SQL Server Management Studio, APIs (SwaggerUI), AWS (S3, RDS)

PROFESSIONAL EXPERIENCE

NIELSENIQ — Danvers, MA
Analytical Framework Consultant — August 2019 - Present

- Developed a set of functions in Python that retrieves item information from both an Oracle database and SwaggerUI API endpoints
- Lead developer of a tool, hosted in a Jupyter notebook, that compares the equivalized unit volume of items within a database. This tool replaces a manual report generation process and reduces analysis time by 95%
- Built a tool in a Jupyter notebook that compares database information between environments. This tool replaces a VBA macro that accomplishes the same task, and the new tool reduces report generation time by 90%
- Member of an efficiency team within the organization that aims to identify current processes that can be streamlined in order to reduce the length of product delivery timelines
- Research items within databases that contain product information for manufacturers for 3 different clients. Provide recommendations to clean value names, adjust database structure, and remove outdated items, resulting in improved user experience. Present key findings to client and project manager

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 December 2017 - August 2019
Associate IT Consultant September 2016 - December 2017

- 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, resulting in increased revenue. Frequently met with client teams to discuss the reasons for minor database errors
- Designed software requirements specifications (SRS) for multiple custom interfaces involving ETL, providing access to more external data for clients

PROJECTS

RIDESHARE PRICE PREDICTOR
Github Link: https://github.com/atomazos/machine_learning-ridesharing_data
Link to Deployed Project: https://chi-ride.herokuapp.com/

- An app that uses an SGD Regression machine learning model to predict rideshare fares in Chicago, IL
- Using public rideshare data made available by the City of Chicago, I made the SGD Regression model based off of pickup location, drop-off location, weather, and time of day
- The machine learning model was created in Python, the visualizations were made using D3.js, and the app was deployed to Heroku

CHICAGO BUILDING ENERGY EFFICIENCY
Github Link: https://github.com/mmpatterson/chicago-buildings
Link to Deployed Project: https://mmpatterson.github.io/chicago-buildings/index.html

- A site that analyzes the energy efficiency of large buildings in Chicago, IL based on the age, location, and size of the buildings
- Using public data, I made two map visualizations: one plots buildings by age and the other plots buildings by energy efficiency
- The maps were created using Leaflet.js, and the API supplying the data was provided by the City of Chicago

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