

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

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, PySpark, Requests), SQL (SQL Server, PostgreSQL), noSQL (mongoDB), JavaScript (Plotly, D3, Leaflet), R
- **Tools:** Jupyter Notebooks, Machine Learning (linear regression, logistic regression, decision trees, random forest, k-nearest neighbors, k-means), Time Series Analysis, Natural Language Processing, Tableau, HTML5, CSS3, Microsoft Office, Microsoft Visio, Microsoft Visual Studio, Git, SQL Server Management Studio, APIs (SwaggerUI), AWS (S3, RDS)

PROFESSIONAL EXPERIENCE

NIELSEN

Analytical Framework Consultant

Chicago, IL and Danvers, MA

August 2019 - Present

- 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 Provide recommendations to clean value names, adjust database structure, and remove outdated items, resulting in improved user experience.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.
- Use Python to prototype tools that are built upon machine learning models in order to automate manual processes during database analysis.
- Built a tool in Jupyter Notebook that retrieves and analyzes database information using SwaggerUI API endpoints and Pandas. This tool replaces a VBA macro that accomplishes the same task, and the new tool reduces report generation time by 80%.
- Member of an efficiency team within our organization that aims to identify current processes that can be streamlined in order to reduce the length of product delivery timelines.

TRILOGY EDUCATION SERVICES

Teaching Assistant, Data Visualization Program

Chicago, IL

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.

IT Consultant

Associate IT Consultant

Chicago, IL

December 2017 - August 2019

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, two map visualizations made: 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.