

Rayan Yassminh, Ph.D.

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Motivated data scientist with a background in computational geosciences and a PhD in geophysics. Skilled in predictive modeling, machine learning, data processing, and data mining. Passionate about building machine learning models. Experienced in Python programming, MATLAB, and MLOps in AWS.

- Experience in developing Statistical Machine Learning Models, Data Mining solutions for various industries and generating data visualizations using Python and MATLAB.
- Modeling supervised and unsupervised learning.
- Ability to adapt to a fast paced and dynamic work environment with interpersonal, leadership and coordination skills.
- Strong analytical skills with the ability to collect, organize, analyze, and disseminate significant amounts of information with attention to detail and accuracy.
- Skilled in Natural Language Processing (NLP), Computer Vision, and Convolutional Neural Networks (CNN).
- Utilizing AWS for computing, including the creation, optimization, and deployment of end-to-end prediction models through Amazon SageMaker and expertise in MLOps.

EDUCATION:

Postgraduate Program McCombs School of Business, University of Texas at Austin	2023
Field: AI and Deep Learning.	
Postgraduate Program McCombs School of Business, University of Texas at Austin	2022
Field: Data Science and Business Analytics.	
Ph.D. University of Missouri, Columbia	2019
Field: Geophysics, Seismology	
M.Sc. University of Missouri, Columbia	2013
Field: Geology, Geophysics, Seismotectonics	
B.Sc. Damascus University	2000
Field: Applied Geophysics	

EXPERIENCE:

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| • Freelance Data Scientist: | 2023-present |
| MLOps, predictive modeling, data analysis, and machine learning. | |
| • Freelance Contributing Technical Writer, Medium: | 2023-present |

Creating articles on a variety of topics relating to Data Science,

- Data Science Intern at Data Glacier: 2022-2023

Microsoft Power BI, Statistical Data Analysis, Tableau, Algorithms, Communication, Forecasting Modeling, Data Analysis, Machine Learning.

- Research Assistant in University of Missouri-Columbia: 2011-2021

Conducting research, leading, and mentoring groups, programing, applying statistical and mathematical models, researcher, Linux, presenting results in conferences and publications.

- Teaching Assistant in University of Missouri-Columbia: 2013-2016

Teaching Physical Geology and Environmental Geology in class and in lab; mentoring and supervising students; evaluating student progress and coming up with strategies to improve their progress.

- Geophysicist/Seismologist in Earthquake Research Center: 2001-2010

Working in groups, field work, instrumentation, leading groups, analyzing time series data, dealing with big data, data analyzing, statistics, excel, remote sensing, GIS, Linux, windows, and presenting work for public.

TRAINING:

- Great Learning: Data Science on Cloud with AWS 2023
- Advanced Deep Learning with Keras, Data Camp 2021
- Python programming, 5 courses Data Camp 2021
- SQL for Data Science Specialization,4 courses (Coursera) 2021
- Deep Learning/AI Specialization, 5 courses Coursera 2021
- Training courses in Radar Remote Sensing at University of Twente, Netherlands 2010
(2 months, 288 hours of instruction)
- GIS (Geographic Information System). 2012
Received training in GIS applications, including data collection, spatial analysis, and map visualization using tools like ArcGIS and QGIS.

PROJECTS:

- **Twitter Sentiment Analysis for Airline Services:** To identify the sentiment from a tweet to understand an airlines' customer satisfaction.
 - Skills: NLP, NLTK, vectorization, sentiment analysis, parameter tuning, confusion matrix - based model evaluation.
- **Plant Seedlings Image classification using CNNs:** To identify the plant species from 12 different species using a convolutional neural network.
 - Skills: image processing, computer Vision, Keras, TensorFlow
- **Bank Customer Churn Prediction:** To help the operations team identify the customers that are more likely to churn by building an artificial Neural Network from scratch.
 - Skills: Tensorflow, Keras, ANN
- **Convolution Neural Network:** Predicting the arrival times of seismic phases.
 - Skills: CNN, preprocessing seismic data, regularization, and Image processing
- **Classification Project:** Analyzing the data of visa applicants and building a predictive model to facilitate the process of visa approvals.

- Skills: EDA, Data Preprocessing, Customer Profiling, Bagging Classifiers (Bagging and Random Forest), Boosting Classifier (AdaBoost, Gradient Boosting, XGBoost), Stacking Classifier, Hyperparameter Tuning using GridSearchCV, Business insights.
- **Renewable Energy Project:** Played a key role in enhancing the productivity of farm wind energy through the application of machine learning techniques.
 - Collected extensive data from wind turbines using sensors.
 - Classification models with the goal of identifying potential failures in advance.
 - Employed techniques such as up and down sampling, regularization, hyperparameter tuning, and utilized XGBoost to optimize model performance.
- **Coffee Beans Recommendation System:** The objective is to predict the customer choice of coffee based on how they review the coffee and based on their profile.
 - Skills: Scraping data from websites, EDA and developing a machine learning model in Python to predict consumer behavior using Natural Language Processing (NLP), sentiment analysis, and XGBoost.
- **Stock Market:** Analyze stocks data, grouping the stocks based on the attributes provided, and sharing insights about the characteristics of each group.
 - Skills: EDA, KMeans Clustering, Hierarchical Clustering, Cluster Profiling.

PUBLICATIONS:

- **Yassminh, R.,** Laphim, P., & Sandvol, E. (2020). Seismic Attenuation and Velocity Measurements of the Uppermost Mantle Beneath the Central and Eastern United States and Implications for the Temperature of the North American Lithosphere. **Journal of Geophysical Research: Solid Earth**, **125**(4).
- **Yassminh, R.,** Gallegos, A., Sandvol, E., & Ni, J. (2019). Investigation of the Regional Site Response in the Central and Eastern United States. **Bulletin of the Seismological Society of America**, **109**(3)
- Gomez, F., Cochran, W. J., **Yassminh, R.,** Jaafar, R., Reilinger, R., Floyd, M., ... & Barazangi, M. (2020). Fragmentation of the Sinai plate indicated by spatial variation in present-day slip rate along the Dead Sea Fault System. *GeoJI*.
- Alchalbi, A., M. Daoud, F. Gomez, S McClusky, R. Reilinger, M. Abu Romeyeh, A. Alsoud, **R. Yassminh,** B. Ballani, R. Darawcheh, R. Sbeinati, Y. Radwan, R. Al Masri, M. Bayerly, R. Al Ghazzi, & M. Barazangi, 2010. Crustal deformation in northwestern Arabia from GPS measurements in Syria: Slow slip rate along the northern Dead Sea fault. *Geophysical Journal International*, v. 180, pp. 125 – 135.
- M. Abou Romieh, R. Westaway, M. Daoud, Y. Radwan, **R. Yassminh,** A. Khalil, A. Ashkar, S. Loughlin, K. Arrell , D. Bridgland , 2009. Active crustal shortening in NE Syria revealed by deformed terraces of the river Euphrates. *Terra Nova*, v. 21, pp. 427 – 437.
- Bridgland, D., Westaway, R., Daoud, M., **Yassminh, R.,** & Romieh, M. A. (2008). River Terraces of the Nahr el Kebir, NW Syria, and their Palaeolithic record. *Bulletin for the Council for British Research in the Levant*, 3(1), 41-46.