ESMAEIL REZAEI

Immediately Available | Green Card Holder | Dec 2024 Graduate

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SUMMARY

A talented, passionate and self motivated data scientist with 1 year and 5 month experience. Ph.D. in Data Science, M.S in Industrial Engineering (Socio-Economic System Engineering), and B.S. in Mathematics. Proficient in **Python, R, SQL, SAS**

SKILLS

- **Python** (Scikit-Learn, TensorFlow, Pyspark, Keras)
- **R** (ggplot2, tidyverse)
- **SQL**
- **Microsoft Power BI** (Dashboard Development)
- **AWS** (SageMaker)

Other: Excel • PowerPoint • Matplotlib • Seaborn • spark • Matlab| Familiar C++, Hadoop, LaTeX

ML Proficiencies: Applied Machine Learning • Regression • Dimensionality Reduction • Optimization • Classification • Clustering • Deep Learning • CNN • CART • XGBoost • Statistics • Probability • Data Mining

WORK EXPERIENCE

Graduate Student Researcher \ Teaching Assistant, University of Massachusetts, Dartmouth, *(Sep 2021 - Present)*

Research Assistant

- Reduced computational cost of PCA by **78 times** through developing an advanced machine learning algorithm, coded Python and Matlab scripts to build the algorithm, and evaluated its performance in different scripts.
- Developed a machine learning algorithm for demand forecasting from big data, utilizing utility demand data (3.7 million records) from ComEd, a company in the state of Illinois. Coded R and Python scripts to build the algorithm and employed Tableau and Microsoft Power BI for data visualization.
- Solved the scalability issues of big data by developing a predictive machine learning algorithm which improves when new sets of data are used, and coded in Python to create the algorithm. Additionally, used SQL to handle large datasets for testing.
- Developed a classification algorithm in Python with **95% accuracy** tailored to evaluate driver behavior risk, implemented and tested on a driving simulator to alert aggressive drivers (Pyspark, Pandas, Matplotlib, Seaborn).

Teaching Assistant

- Tutored 35 students with learning challenges in coding up engineering solutions with Matlab, Python.

Data Scientist, Behin Tadbir Paradise, *(Feb 2020 - Jul 2021)*

- Built **insurance pricing** algorithms for financial services using machine learning (XGBoost, Naive Bayes, Neural Networks), coded in Python, and collaborated with software developers to create the **GUI**, significantly **improved expected revenue**.

Founder and Manager, SHARIFNEGAR, *(Nov 2015 - Aug 2021)*

- Led a team of 60 in an e-commerce website to sell tutorials in Data Science, Data Analytics, Mathematics, and Engineering.

EDUCATION

Doctor of Philosophy in Machine Learning and Data Science — *Sep 2021 - Dec 2024*
University of Massachusetts, Dartmouth — GPA 3.94

Master of Science in Socio-Economic System Engineering (Industrial Engineering Program) — *Sep 2013 - Sep 2015*
University of Science and Technology of Mazandaran, Iran — GPA 3.61

Bachelor of Science in Pure Mathematics — *Jan 2009 - Jul 2012*
University, Iran — GPA 3.05

PROJECTS

National Science Foundation (NSF) Funded Projects

- Developed a machine learning algorithm for demand forecasting in the ComEd supply chain (State of Illinois). Coded in Python, R, and SQL scripts for building the algorithm, data cleaning, data wrangling, and handling noisy data. Utilized Tableau and Microsoft Power BI for data visualizations, including charts, dashboards, and custom reports.
- Develop a super-fast dimensionality reduction algorithm for big data. Coded Python and Matlab scripts to implement the algorithm, and perform data process, data visualization, data analytics.

Michelin North America Inc Funded Projects

- Conducted data analytics (180 million data), visualize data using Microsoft Power BI and Tableau. Worked in a team of Massachusetts Institute of Technology (MIT), University of Massachusetts, and Michelin engineers (Pyspark, Pandas, Matplotlib, Seaborn).

US Department of Transportation Funded Project

- Develop a machine learning algorithm to improve driving safety. The algorithm implemented successfully, coded Python, data analytics, data cleaning, and data visualization (Pyspark, Pandas, Matplotlib, Seaborn).

MISCELLANEOUS

- Mentored several successful graduate students in conducting research