Hanieh Haeri

Alamo, CA | (925) 768-0299 | hhaeri0911@gmail.com | LinkedIn | GitHub | Portfolio

Technical Skills

PROGRAMMING LANGUAGES: Python | SQL | MATLAB

DATA SCIENCE & MACHINE LEARNING: Machine Learning (Scikit-Learn), Neural Networks and Deep Learning (PyTorch, TensorFlow, Keras), Computer Vision (OpenCV), Statistical Data Analysis and Hypothesis testing (SciPy, Statsmodels), Data Wrangling & Visualization (SQL, Numpy, Pandas, BeautifulSoup, Matplotlib, Seaborn, Tableau), Time Series Analysis, Natural Language Processing (spacy, nltk, regex), Distributed Version Control (Git), Distributed Computing (Spark), Orchestration (Databricks), Geospatial Data Analysis and Mapping (GIS, GeoPandas)

Education and Certificates

Deep Learning Specialization | DeepLearning.AI | February 2023

Data Scientist Certification – Fellowship Program | The Data Incubator | April 2022

Ph.D. in Civil & Environmental Engineering | University of California – Davis | 2011

B.S. in Chemical & Petroleum Engineering | Sharif University of Technology | 2004

Experience

University of California, San Francisco **April 2023 _ Present**
Researcher

- Focus of research is on refinement of multiple regularization techniques tailored for enhancing performance of a novel VAE architecture that is designed to harness visually interpretable concepts as predictor for a simple classifier, with the goal of building the trust between the medical practitioners and the network's decision-making processes (link).

Freelance Data Scientist **Jan 2023 _ Present**

- Trained a Semantic Segmentation model to extract key geologic features from historic USGS maps (Dice Coefficient = 0.89, Precision = 0.85, Recall=0.93). The model offers a fully operational approach for large-scale geologic feature extraction from diverse maps (link)
- Sentiment Analysis of Yelp reviews (link)
- Merchandise sale prediction/ retail demand forecasting Loan foreclosure prediction

THE DATA INCUBATOR **2022**
Data Science Fellow

- Completed various real-world data science projects covering: Data Wrangling, Web Scraping, Graph Analysis, Machine Learning, Visualization, Time Series Analysis, Natural Language Processing, Distributed Computing, Neural Network
- Developed capstone project that uses machine learning to predict county_level daily COVID-19 case count in the State of California. Built a heroku app that provides model results to the end user. Detailed information can be found here.

MONTGOMERY & ASSOCIATES **2014 – 2022**
Engineering Consultant

- Developed highly parameterized conceptual flow models of regional and local groundwater basins
- Leveraged machine learning outcomes to evaluate and recommend groundwater management strategies. Delivered robust, sustainable decision-making support that served clean water to 1M+ residents in Northern California.
- Produced informative and visually compelling geospatial analysis products, maps, and web-based GIS applications in support of project development, planning, execution, and operations
- Scripted Python codes for efficient data wrangling, web scraping, exploratory data analysis and data visualization.
- Defined key performance metrics to provide business insights and to quickly and accurately provide stakeholders with relevant data and reports that drive decision-making processes.

UNIVERSITY OF CALIFORNIA – DAVIS **2005 – 2011**
Research Assistant

- Calibrated a highly parametrized flow model of a local groundwater basin by leveraging supervised machine learning.
- Designed a 2-D motion model for the SFBD striped bass. Utilized the model to study the spatial and temporal contaminant uptake during the individual fish lifecycle.
- Performed integration, analysis, and synthesize of data from several open sources.