

## Technical Skills

**PROGRAMMING LANGUAGES:** Python | SQL | MATLAB

**DATA SCIENCE & MACHINE LEARNING:** Machine Learning (Scikit-Learn), Neural Networks and Deep Learning (PyTorch, TensorFlow, Keras), 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  
Researcher

April 2023 \_ Present

- Research is focused 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

- Merchandise sale prediction/ retail demand forecasting
- Object detection and tracking, Image segmentation and annotation, Geologic feature extraction from USGS maps ([link](#))
- Sentiment Analysis of Yelp reviews ([link](#))
- 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 SFBDB 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.