

Farnaz Yousefi Zowj

Auburn, AL 36830

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Willing to relocate: Anywhere

Work Experience

Graduate Research Assistant

Chemical Engineering Department - Auburn, AL

January 2019 to Present

- Feature Engineering and Machine Learning for Computer-assisted Screening of Children with Speech Disorders (Funded by NIH).
- This research proposed a framework that integrates feature engineering and selection, SMOTE sampling, simulation, and machine learning algorithms (random forest, svm, xgboost, lda) which can yield significant advantages in providing a robust screening tool for identifying children at risk for speech disorders and potentially be used in clinics.
- Tools: Python, MATLAB, SpeechMark, Excel.
- A monte-carlo simulation approach was utilized to overcome the sample limitation issue
- Our prediction models could predict speech disorders, with sensitivity and specificity around 80%.
- Systems Engineering-assisted K-means Clustering to Investigate the Trend of the COVID-19.
- This study aims to find the transmission rate of the COVID-19 variants in the US and investigate if the new variant has affected the number of cases.
- Tools: Python, Clustal Omega (multiple sequence alignment tool), Excel.
- An unsupervised (K-means and Hierarchical clustering) framework was developed to identify high-risk protein mutations sites.
- A temporal and spatial analysis of COVID-19's spread was conducted using various visualization techniques.

Graduate Teaching Assistant

Chemical Engineering Department - Auburn, AL

January 2019 to December 2020

- Computer-Aided Chemical Engineering (An introduction to systematic problem solving using MATLAB®)
- Chemical Engineering Analysis (Mathematical modeling, analytical, numerical and statistical analysis of chemical processes)

Education

Ph.D. in Chemical Engineering

Auburn University - Auburn, AL

August 2019 to Present

M.Sc. in Chemical Engineering

Auburn University - Auburn, AL

August 2019 to December 2021

M.Sc. in Chemical Engineering

Sharif University of Technology - Tehran, Iran
2017 to 2019

B.Sc. in Chemical Engineering

University of Tehran - Tehran, Iran
2013 to 2017

Skills

- Data analytics
- Tableau
- Regression analysis
- Clustering
- MATLAB
- Analytics
- NumPy
- SQL
- R
- Pandas
- Microsoft Powerpoint
- Machine learning
- Microsoft Excel
- Python
- TensorFlow
- Logistics

Languages

- Farsi - Expert
- English - Fluent

Links

<http://www.linkedin.com/in/farnaz-yousefi-zowj-0872b8139>

Awards

Full Ph.D. tuition scholarship, Auburn University

August 2019

Certifications and Licenses

Supervised Learning with scikit-learn

August 2021 to Present

datacamp

Unsupervised Learning in Python

August 2021 to Present

datacamp

Linear Classifiers in Python

August 2021 to Present

datacamp

Case Study: School Budgeting with Machine Learning in Python

August 2021 to Present

datacamp

Introduction to Deep Learning in Python

August 2021 to Present

datacamp

Responsible Conduct of Research for Engineers

July 2020 to July 2025

Engineering and Computing RCR, CITI Program

Research with Children - SBE

August 2020 to August 2023

CITI Program

Records-Based Research

August 2020 to August 2023

CITI Program

Defining Research with Human Subjects - SBE

July 2020 to August 2023

CITI Program

Assessments

Analyzing data — Highly Proficient

October 2021

Interpreting and producing graphs, identifying trends, and drawing justifiable conclusions from data
Full results: [Highly Proficient](#)

Spreadsheets with Microsoft Excel — Expert

October 2021

Knowledge of various Microsoft Excel features, functions, and formulas

Full results: [Expert](#)

Indeed Assessments provides skills tests that are not indicative of a license or certification, or continued development in any professional field.