Saeb Ragani

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Linkedin Github Portfolio

Objective

Looking for opportunities in Data Science, Machine Learning Bio-mechanics

Skills

RESEARCH
Bio-Mechanics, Machine Learning, Deep Learning,
Data Mining, Statistical Analysis, Statistical Process Control,
Signal Processing, Time Series Analysis

LANGUAGES
Python, R, Matlab, Fortran

OS
Linux, Windows

OTHERS
HTML/CSS, JavaScript, Java, MySQL

Education

2016 - PRESENT
PHD, MECHANICAL ENG.
SUNY at Buffalo
Buffalo, NY

2012 - 2014
MSC, MECHANICAL ENG.
Eastern Mediterranean University
Magusa, Turkey

2005 - 2010
BSC, MECHANICAL ENG.
K.N. Toosi University of Tech.
Tehran, Iran

Teaching Experience

DYNAMICS SYSTEMS LAB
2 Semesters at UB Buffalo, NY

THERMODYNAMICS
4 Semesters at UB Buffalo, NY

Experience

2018-NOW **University at Buffalo** **Research Assistant at Bio-Mechanics Lab**

Project1: Gait Analysis
We developed 2 statistical process control frameworks to detect fatigue from the IMU signals on the ankle. I implemented the algorithms in R.
R, R-Markdown, doParallel

Project2: Activity Recognition
In a project that was funded by GE we tried to predict the activities of electric line workers from the signals collected by wearable sensors. I implemented multiple ML algorithms using the Sklearn and TensorFlow libraries in python.
Python, Scikit-learn, TensorFlow, Jupyter Notebook

Project3: Task Frequency
Using signals from wearable sensors I implemented multiple time series motif discovery methods along with similarity search approaches to count the repetitions in certain tasks.
Python, Jupyter Notebook

2016-2018 **UB Neurosurgery** **Research Assistant at CTRC**

Project1: Simulation of Intracranial aneurysm Treatment
We simulated implantation of endovascular stent and coil as well as the post-treatment blood flow using CFD techniques. We also validated the simulations using particle image velocimetry.
StarCCM, Tecplot, Matlab

2014-2016 **Med-X Research Institute, Shanghai** **CFD Engineer**

Project1: Effect of Different Imaging Techniques on CFD Simulations
We looked into the effect of 2 coronary imaging techniques (CCTA and ICA) on calculation of fractional flow reserve using computational fluid dynamics techniques.
Fortran, ANSYS Fluent, Tecplot

Other Projects

FALL 2019 **CSE 601** **Clustering & Classification**
I implemented 5 clustering & 4 classification algorithms in python without the use of existing libraries. *Python*

SPRING 2020 **CSE 574** **Fairness in ML**
We optimized the post-processing evaluation methods to improve the fairness in 3 ML models. *Python*

Selected Publications (Google Scholar)

ACTIVITY RECOGNITION IN ELECTRIC LINE WORKERS FROM SINGLE WRIST-WORN ACCELEROMETER
IISE Journal (under review)

A PERSONALIZED AND NON-PARAMETRIC FRAMEWORK FOR DETECTING CHANGES IN GAIT CYCLES
Scientific Reports Journal (under review)