

# Saeb Ragani

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[Linkedin](#) [Github](#) [Portfolio](#)

## Objective

*Seeking full time position in Bio-mechanics, Data Science, and Machine Learning.*

## Skills

### RESEARCH

*Bio-Mechanics, Motion Capture Data Analysis, 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)*