

# Sajad Darabi

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## Education

### Department of Computer Science

Ph.D. student at eHealth and Data Analytics Lab UCLA

### University of California Los Angeles

2016–2020.

### Department of Engineering

B.Eng Electrical - graduated with distinction, CGPA 3.98/4.0 (up to W2016)

### McGill University

2013–2016

## Skills

**Langages:** Python, Java, C, C++, MATLAB, Javascript, SQL, HTML/CSS

**Tools/Frameworks:** Android, Django, Mongo, sk-learn, Hadoop, MapReduce, Cadence

**Interests/Background:** Machine Learning/Data Mining, NLP, Deep Learning, Signal Processing, Back-end Android/Web Dev

## Selected Projects

**EmoLie Chatbot:** Developed a conversational chat bot that would evaluate a persons emotional state, and provide a confidence score. Trained facebooks infersent model on the SNLI task, and a CNN model on Cornell's movie database for classification of sentences as either (sad or happy) sentences. Used tensorflow, and pytorch. Team member Shayan Fazeli

**PreREK:** A web app that allows users to create learning trees. The learning trees bring structure to the learning process of any user that is interested in tackling new topics. Website designed using Django framework and Bootstrap HTML/CSS. The Learning trees are created using XML generated by draw.io and displayed using the D3.js API.

**Predicting Jump Air Time:** Trained various models: KNN regression, regularized regression, random forest and used feature elimination, as well as ensemble methods to predict jump height of a person. Used python and sklearn package. Team member Mohammad Kachuee.

## Publications

**Feature Acquisition Using Denoising Autoencoders**, Kachuee, M., **Darabi, S.**, Moatamed, B., Sarrafzadeh, M. (in submission IEEE TNLS 2017)

**Context-Aware Feature Query to Improve The Prediction Performance**, Kachuee, M., Hosseini, A., Moatamed, B., **Darabi, S.**, Sarrafzadeh, M. (IEEE GlobalSIP 2017)

**Heart Rate Compression & Time Reduction method for HRV Monitoring in Athletes**, **Darabi, S.**, Moatamed, B., Huang, W., Metoyer CJ., Linn M., Sarrafzadeh, M. (IEEE HIPOCT 2017)

**Sports Analytics Platform for Athletic Readiness Assessment**, Moatamed, B., **Darabi, S.**, Gwak M., Kachuee, M., Metoyer CJ., Linn M., Sarrafzadeh, M. (IEEE HIPOCT 2017)

**Complex Event Processing of Health Data in Real-time to Predict Heart Failure Risk and Stress**, Sandha, SS., Kachuee, M., **Darabi, S.** . (arxiv)

## Experience

### eHealth Resarch Lab

Graduate Student Researcher

### UCLA

August 2016-pres.

- Developing machine learning models to predict training load of athletes. Using python, sk-learn, pytorch, tensorflow.
- Developed data collection platform (heart rate/jump sensors) and android application (15000+ lines).
- Implemented signal processing algorithm for extracting features from PPG/ECG signals.

### McGill Broadband Communications Lab

Research Assistant

### Montreal

May 2015 - February 2016

- Programmed ESP8266 Wi-Fi/MCU modules in C (2000+ lines of code). Implemented MANET algorithms and protocols on toy race cars to simulate Vehicle to Vehicle communication.
- Programmed serial and UART drivers for ESP8266 to interface with medical sensors.
- Determined throughput and link reliability of ESP8266 Wi-Fi modules.

## CompEM Lab McGill

Software Developer

Montreal

May 2014 - October 2014

- Implemented in MATLAB (2000+ lines of code) delay and sum (DAS) as well as (DMAS) signal processing algorithms for image reconstruction to detect breast cancer tumors. Detected tumors with 88% accuracy in breast phantoms.
- Implemented GUI in MATLAB (2000+ lines of code) for facilitating the entry of various parameters and data processing.

## Teaching

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### Introduction to Machine Learning - CM146A

Teaching Assistant

UCLA

Fall 2017

### Introduction to C++ - CS31

Teaching Assistant

UCLA

Summer 2017

### Vanier College Math & Scienc Center

Math/Science Tutor

Vanier College

2012 - 2015

- Tutored students in Calculus I, II, III, Probability and Statistics, Linear Algebra, Differential Equations.
- Awarded best tutor 2012

## Awards & Honors

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- **NSERC Graduate Student Scholarship** - Awarded to exceptional undergraduates with research potential (highly selective) 2016
- **Dean's Honour list** - top 5% engineering faculty 2013-2016.
- **NSERC Scholarship** - Research scholarship, first class A- average requirement 2015
- **Motorola Scholarship** - awarded to engineering student with high standing 2015
- **Brodeur Drummond Scholarship** - overall contribution to student life & high standing 2015
- **Richard Brown Scholarship** - High academic standing 2014
- **Clifford Knowles Bursary** - Distinguished academic standing 2014
- **J B Woodyatt Scholarship** - Awarded to outstanding undergraduate 2014
- **Mary Gilsig Scholarship in Engineering** - Awarded to student with high academic standing 2014
- **Prompt Quebec Scholarship** - Research scholarship 2014
- **Faculty of Engineering Scholarship** - top 5% in all Faculty of Engineering 2013
- **John V Galley Scholarship** - Awarded to distinguished academic student 2013

## Miscellaneous

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**Languages:** English (Native), French (Native), Persian (Professional), Azeri Turkish (Professional).

**Citizenship:** Canadian.