

## Education

### University of California Los Angeles

Los Angeles, USA

PH.D. IN COMPUTER SCIENCE

Sept. 2016 - 2020

- Research topic: **personalized healthcare using generative models and neural networks.**
- Relevant Courses: Machine Learning, Deep Learning, Natural Language Processing, Health Analytics, Probabilistic Programming

### McGill University

Montreal, Canada

B.ENG. HONOURS IN ELECTRICAL ENGINEERING CGPA: **(3.98/4.00 UP TO W16)**

Jan. 2013 - Mar. 2016

- Thesis: Dynamic Alignment of WDM Multiplexers & Optical Fibers
- Relevant Courses: Computer Vision, Probability & Statistics, Signals & Systems I, II, Analog IC Design & Theory, Quantum Physics

## Experience

### Noah's Ark Lab - Huawei Technologies

Montreal, Canada

RESEARCH INTERN

June 2018 - Oct 2018

- Research topic: **Deep Neural Networks Model Compression**
- Implemented quantization and model compression schemes in both **Tensorflow & Pytorch.**
- Method results in  $\approx 32x$  compression and  $\approx 11x$  speed-up. Produced state of the art results on ImageNet & CIFAR10.

### eHealth and Data Analytics Lab UCLA

Los Angeles, USA

GRADUATE STUDENT RESEARCHER

Sept. 2016 - pres.

- Analyzing time series data and developing machine learning models to predict training load of athletes. **Tensorflow, sk-learn**
- Developed android application for data collection that interfaces to various sensors (jump/heart sensors) **(15000+ lines)**
- Implemented signal processing algorithms for extracting features from PPG/ECG signals.

### McGill Research Labs

Montreal, Canada

UNDERGRADUATE RESEARCHER

May 2014 - Feb. 2016

- **Broadband Communications Lab:** Programmed ARM micro-controllers to drive a toy car and implemented MANET algorithms to simulate Vehical 2 Vehical communication. Done in C **(2000+ lines of code)**
- **CompEM Lab:** Implemented DAS and DMAS signal processing algorithms for 3D image reconstruction to detect breast cancer tumors. Detected tumors with 88% accuracy in breast phantoms. **(2000+ lines of code)** Summer 2014.

## Research & Publications

2019	<b>BNN+: Improved Binary Training</b> , Darabi, S., Belbahri, M., Courbariaux, M., Partovi Nia, V.	<a href="#">Arxiv</a>
2018	<b>Feature Acquisition Using Denoising Autoencoders</b> , Kachuee, M., Darabi, S., Moatamed, B., Sarrafzadeh, M.	<a href="#">IEEE TNLS</a>
2017	<b>Context-Aware Feature Query to Improve The Prediction Performance</b> , Kachuee, M., Hosseini, A., Moatamed, B., Darabi, S., Sarrafzadeh, M	<a href="#">GlobalSip</a>
2017	<b>Heart Rate Compression &amp; Time Reduction method for HRV Monitoring in Athletes</b> , Darabi, S., Moatamed, B., Huang, W., Metoyer C.J., Linn M., Sarrafzadeh, M,	<a href="#">HIPOCT</a>
2017	<b>Sports Analytics Platform for Athletic Readiness Assessment</b> , Moatamed, B., Darabi, S., Gwak M., Kachuee, M., Metoyer C.J., Linn M., Sarrafzadeh, M	<a href="#">HIPOCT</a>
2017	<b>Complex Event Processing of Health Data in Real-time to Predict Heart Failure Risk and Stress</b> , Sandha, S.S., Kachuee, M., Darabi, S.	<a href="#">Arxiv</a>

## Selected Projects & Skills

<b>EmoLie Chatbot</b>	Conversational bot using CNN and Facebook's Inference model to detect emotions (PyTorch) Team: Shayan Fazeli
<b>PreRek Web App</b>	Allows users to create learning trees bringing structure to the learning process. Implemented using D3.js, Django.
<b>Tools</b>	Tensorflow, Pytorch, Android, Django, ReactJs, Mongo, Hadoop, Cadence
<b>Languages</b>	Python, Java, Javascript, C, C++, HTML/CSS

<b>Teaching Assistant</b>	<b>Machine Learning CM146</b> (F17, W18, F18), <b>Intro to C++ CS31</b> (Su17), <b>Cal I-III &amp; Physics I-III</b> (F12-W15)
<b>Awards</b>	<b>Dean's Honour List</b> - Awarded to top 10% in Engineering (2013-2016), <b>NSERC Graduate Student</b> - Selected amongst 73 top students pursuing graduate school, declined offer(2016), <b>NSERC Research</b> - Awarded to 40 students pursuing research across all disciplines at McGill (Su15, Su16 (declined)), <b>Motorola</b> - Awarded to top ECE student at McGill (2015), <b>Brodeur Drummond</b> - Awarded for contributing to student life (2015), <b>Prompt Quebec</b> - Research scholarship for summer proposal (2014), <b>Mary Gilsig Scholarship</b> Awarded to 3 people in engineering with preference to EE. (2014), <b>Faculty of Engineering Scholarship</b> Awarded to 5 students (2014). <b>John V Galley</b> - Distinguished academic, awarded to 2 people (2013)
<b>Languages</b>	English (Fluent), French (Fluent), Persian (Fluent), Azeri Turkish (Fluent), Spanish (basic)