

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)

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

Selected Projects & Skills

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

Teaching Assistant Awards

Machine Learning CM146 (F17, W18, F18), **Intro to C++ CS31** (Su17), **Cal I-III & Physics I-III** (F12-W15)
Dean's Honour List - Awarded to top 5% in Engineering (2013-2016), **NSERC Graduate Student** - Selected amongst top students pursuing graduate school (2016), **Motorola** - Awarded to top engineering student (2015), **Brodeur Drummond** - Awarded for contributing to student life (2015), **Prompt Quebec** - Research Scholarship (2014), **John V Galley** - Distinguished academic, awarded to 2 people (2013)

Languages

English (Fluent), French (Fluent), Persian (Fluent), Azeri Turkish (Fluent), Spanish (basic)