SALIM MALAKOUTI

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Legal status in US: Permanent Resident

EDUCATION

PhD in Computer Science, University of Pittsburgh *September 2013- Present*
BSc, Amirkabir University of Technology, Iran *September 2008- 2013*

RELATED TECHNICAL SKILLS

Programming and Scripting Languages	Java, Python, C++, PHP, Javascript, Bash
Data Science, ML & Deep Learning	Matlab, Scikit-learn, Numpy, Keras, Tensorflow, Pandas, MLLib, Weka
Database and Distributed	MySQL, Cassandra, Ne04j, Oracle, MongoDB, Hadoop
Tools, Frameworks, Platforms	Solr, Nutch, WordNet, Jetty, Node.JS, ReactJS

RESEARCH INTERESTS

Machine learning, Deep Learning, Multi-task learning, Transfer Learning, Timeseries Analysis and prediction, Electronic Health Records and other forms of medical data

RESEARCH

Hierarchical Multitask Learning
Developing new multi-task learning methods that can effectively incorporate the hierarchical structure of target tasks in the learning process especially when large number of tasks are present

· Transfer Learning, Multitask learning, Domain Adaptation, Hierarchical Learning, Optimization

Personalized Machine Learning
I seek to answer the question: how can we learn better personalized models by transferring knowledge from similar patients and past knowledge?

· Multitask Learning, Transfer-Learning

DeepEHR: Deeplearning on Multivariate Timeseries Medical Data
Using Deep Learning algorithms to learn both temporal and non-temporal representations of medical data

· Deep Learning, CNN, LSTM, Attention and etc.

EXPERIENCE

Graduate Research Assistant, University of Pittsburgh 2015 - Present
Realtime Outlier based alerting and monitoring system for ICU patients using Electronic Health Records data

· Researching ML methods for prediction and anomaly detection in multivariate timeseries medical data
· Studying impact of highly imbalanced data on SVM, Bayesian Networks and other algorithms.
· Developing a realtime data processing framework for machine learning solutions that use Electronic Health Record data (Java, Python, Mysql, C++)

Teacher Assistant and Peer Review System, University of Pittsburgh 2013 - 2015
Courses: Data Structures, Web Programming, Java

· Developed: A Peer Review system for Web Programming course's student projects that promoted positive constructive feedback by students for their peers.
· Awards: Best Teacher Assistant Award (2015)

OTHER RELEVANT PROJECTS

Automatic Short Answer Grading
Extracting multiple NLP features from student short answer to automatically grade exam questions

· LDA, N-gram, SVM, Decision Tree, Bayesian Networks, Random Forest and etc.

News Causal Analysis on Stock Martket
Determining events that had causal impact on increase or drop of stock market indexes

· CNN, LSTM, and Encoder decoder networks

OPEN SOURCE PROJECTS

MsgPack-Pystream 2018
Efficient SAX-like library for MessagePack binary serialization format n designed to handle Big Data

· Python package written with both pure python backend and C0extension

PyLods Parser 2018
A python library similar to famous JacksonJson in JAVA for object serialization that allows automatic identification of nested objects based on class definitons and annotations

· Written as a python package in both pure python and as a C-extension
· Supports Json and MsgPack so far

PUBLICATION

Salim Malakouti and Milos Hauskrecht. **Hierarchical Adaptive Multi-task Learning Framework for Patient Diagnoses and Diagnostic Category Classification.** Proceedings of the 2019 IEEE International Conference on Bioinformatics and Biomedicine (BIBM), San Diego, CA, November 2019.

Malakouti, Salim, and Milos Hauskrecht. **Predicting Patients Diagnoses and Diagnostic Categories from Clinical-Events in EHR Data** Conference on Artificial Intelligence in Medicine in Europe. Springer, Cham, 2019.

Malakouti, Salim, et al.9th International Conference on Virtual Learning. Bucharest University Press, **A Category-Based PageRank Algorithm on Finding Multi-Field Experts in Yahoo! Answers**, 2014

HONORS AND AWARDS

Best Teacher Assistant Award	Computer Science, University of Pittsburgh	2015
2nd & 3rd in RoboCup Rescue Simulation	International Robocup Competitions	2012, 2013

RELEVANT COURSES

Machine Learning	Advanced Machine Learning	Advanced NLP	CS, University of Pittsburgh
Computer Vision	Game Theory & Graph Theory	Algorithms	
Dynamic Optimization			Robotics, Carnegie Mellon University
Timeseries Analysis & Stat			Stat, University of Pittsburgh
Bayes Computation			DBMI, University of Pittsburgh

EXTRACURRICULAR

Vice President of Finance, Graduate and Professional Students Government at University of Pittsburgh with $300k budget, 2015-16

President, Iranian Student Assocation,$65K annual expenses including $12k budget and $53k income, 2014-15

Technical(Maintainance) Committee Member of RoboCup Rescue Simulation League, 2013-14

President, Student Scientific Association, Computer Science, Amirkabir University of Technology, 2011