FARNAM MANSOURI

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INTERESTS

Statistics: High Dimensional Statistics, Point Processes
Machine Learning: Reinforcement Learning
Deep Learning: Recurrent Neural Networks, Deep Reinforcement Learning
Optimization: Convex Optimization
Machine Teaching: Teaching Complexity
Algorithms and Theory: Approximation Algorithms

EDUCATION

Sharif University of Technology *2015 - Present*
Bachelor's of Science
Major in Software Engineering and Minor in Mathematics. GPA: 17.88 / 20

Helli 1 high school *2011 2015*
High school
Affiliated with the National Organization for the Development of Exceptional Talents (NODET)

PUBLICATIONS

Preference-Based Batch and Sequential Teaching: Towards a Unified View of Models
F. Mansouri, Y. Chen, A. Vartanian, X. Zhu, A. Singla *In Proc. of NeuRIPS'2019*

ChOracle: A Unified Statistical Framework for Churn Prediction
A. Khodadadi, A. Hosseini, E. Pajouheshgar, F. mansouri, H. R. Rabiee *ArXiv*

EXPERIENCE

Internship in Max Planck Institute of Software Systems July 2018 - Sep 2019
Under supervision of Dr. Singla, Machine Teaching Group
Subjects: *Saarbrcken, Germany*

- We developed a new framework which captures the teaching process via preference functions. We found new connections between teaching complexity of a family defined in this framework, and VC dimension.
- In contrast to classical teaching algorithms, we have worked on teaching scenarios where the teacher isn't fully aware of the true target hypothesis, and tried to develop robust algorithms for teaching.
- We investigated several Reinforcement Learning settings with presence of adversary, who was perturbing the states which the agent was viewing.
- We have worked on finding a curriculum of environments in Reinforcement Learning setting, in order to accelerate process of teaching to a human learner.

AI Engineer at Tojal June 2017 - Sep 2017
Developed a framework to classify Persian web-pages texts. Here is company website. *Tehran, Iran*

RESEARCH EXPERIENCE

Churn Prediction using point process with RNNs June 2017 - Jan 2018
Digital Media Lab, Sharif University of Technology *Tehran, Iran*

· We purposed a new variational model for churn prediction problem, using recurrent neural network and point process

Detecting micro-classification on Mammography Ongoing
Machine Learning Lab, Sharif University of Technology *Tehran, Iran*

· We purposed a new method for detecting micro-classification on a mammography using convolutional neural networks.

ACHIEVEMENTS

Iran National Mathematics Olympiad 2014 : Silver Medal, among top 40 students in Iran, out of more than 0.1 million competing at the beginning.

Fellowships from Max Planck Institute for Software Systems : Funded as visiting scholar in four occasions (July 2018 - Sep 2018, Jan 2019 - Feb 2019, Apr 2019 - Mar 2019, July 2019 - Sep 2019).

National Elite Foundation Fellowships.

TEACHING

High School Teacher 2015 - 2016
Teaching Combinatorics for high school students, preparing for Iran National Mathematics competition at Helli 1 High School *Tehran, Iran*

Teaching Assistants
Sharif University of Technology *Tehran, Iran*

· **Deep Learning Class (Spring 2019)** *
· **Machine Learning Class (Fall 2018)** *
· **Linear Algebra Class (Fall 2018)**
· **Data Design Class (Spring 2017)**
· **Probability And Statistic Class (Fall 2016 - Spring 2016)**

*Graduate Courses

NOTABLE COURSES

- **Deep Learning** (18/20) *
- **Theoretical Machine Learning** (16.6/20) *
- **Topics in Statistics** (16/20) *
- **Convex Optimization** (16.5/20) *
- **Information Theory And Coding** (19.4/20) *
- **Approximation Algorithms using Linear Programming** (19.3/20) *
- **Mathematical Finance** (18.2/20) *
- **Machine Learning**, Audited *
- **Introduction to Bioinformatics**, Audited *
- **High Dimensional Probabilities**, Audited *
- **Stochastic Processes**, (18/20)
- **Data Analysis**, (19.3/20)
- **Engineering Probability And Statistics Analysis** (20/20)
- **Data Structure and Algorithms** (20/20)
- **Linear Algebra 1** (17.5/20)

*Graduate Courses

TECHNICAL STRENGTHS

Programming Languages	Python, R, Java, C/C++, Android
Machine Learning Libraries	Tensorflow, scikit learn
Database Managemnet	PostgreSQl
Miscellaneous	Android programming *

* Elementary proficiency