FARNAM MANSOURI

B.Science - Computer Engineering
Sharif University of Technology

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Research Interest

- **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

Year	Degree / Certificate	Institute / Board	GPA
2015 - Present	B. Science	Sharif University of Technology	17.88 / 20
2011 - 2015	High School	Helli 1, Affiliated with the National Organization for the Development of Exceptional Talents (NODET)	
2008 - 2011	Secondary	Helli 1, Affiliated with the National Organization for the Development of Exceptional Talents (NODET)	

Experience

Internship

- **Max Planck Institute of Software Systems**
  Under supervision of Dr. Singla, Machine Teaching Group,
  Dates: (*July 2018 - Sep 2018 ; Jan 2019 - Feb 2019 ; Apr 2019 - Mar 2019 ; July 2019 - Sep 2019*)
  Subjects:
  1. 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 frame work, and VC dimension.
  2. 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.
  3. We investigated several Reinforcement Learning settings with presence of adversary, who was perturbing the states which the agent was viewing.
  4. We have worked on finding a curriculum of environments in Reinforcement Learning setting, in order too teach a human learner faster.

Work

- **AI Engineer at Tojal (June 2017 - Sep 2017)**
  Developed a framework to classify Persian web-pages texts. *www.yektanet.com*

Teaching

- **High School Teaching (2015 - 2016)**
  Teaching combinatorics for high school students, preparing for Iran National Mathematics competition.
  Date:

- **Teaching Assistant at Sharif University of Technology**
  1. Deep Learning Class (Spring 2019), Dr. Soleymani Baghshah *
  2. Machine Learning Class (Fall 2018), Dr. Soleymani Baghshah *
  3. Linear Algebra Class (Fall 2018), Dr. Motahari

4. Data Design Class (Spring 2017), Dr. Abam
5. Probability And Statistic Class (Spring 2016 - Fall 2016), A. Hosseini - Dr. Motahari
   * Graduate Course

Publications

- **Preference-Based Batch and Sequential Teaching: Towards a Unified View of Models**
  F. Mansouri, Y. Chen, A. Vartanian, X. Zhu, A. Singla *In proceeding of NeuRIPS'2019*
- **ChOracle: A Unified Statistical Framework for Churn Prediction** *Arxiv*
  A. Khodadadi, A. Hosseini, E. Pajouheshgar, F. mansouri, H. R. Rabiee

Research Experience

- **A Framework for Churn Prediction** *June 2017 - Jan 2018*
  Dr. Rabiee, Digital Media Lab, Sharif University of Technology
  We purposed a new variational model for churn prediction problem, using recurrent neural network and point process.
- **Detecting micro-classification on Mammography** *Ongoing*
  Dr. Soleymani Baghshah, Machine Learning Lab, Sharif University of Technology
  We purposed a new method for detecting micro-classification on a mammography using convolutional neural networks.

Technical skills

- **Programming languages :** Python, R, Java, C/C++
- **Machine Learning Libraries :** Tensorflow, scikit learn
- **Database management :** PostgreSQl
- **Miscellaneous :** Android programming *

  ** Elementary proficiency*

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.**

Key courses taken

- 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 Structures and Algorithms (20/20) *
- Linear Algebra 1 (17.5/20) *

  ** Graduate Courses*