Mahdi Pakdaman Naeini

Intelligent Systems Program
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Research Interests

- Statistical Machine Learning
- Large Scale Optimization
- Deep Learning
- Active Learning
- Anomaly Detection
- Multi-label Classification

Education

University of Pittsburgh, Pittsburgh, PA **Sept. 2011 - present**
Ph.D., Intelligent Systems Program
Research topic: *Obtaining Accurate Probabilities using Classifier Calibration*
Advisor: Dr. Gregory Cooper
GPA: 3.95/4

University of Pittsburgh, Pittsburgh, PA **Sept. 2011 - Dec. 2013**
M.Sc., Intelligent Systems Program
Research topic: *An Optimization-based Framework to Learn Conditional Random Fields for Multi-label Classification*
Advisor: Dr. Milos Hauskrecht

University of Tehran, Tehran, Iran **Sept. 2001 - Jun. 2004**
M.Sc., Robotics and Artificial Intelligence
Thesis: *Design and implementation of an intelligent system for credit risk assessment*
Advisor: Dr. Caro Lucas

Iran University of Science and Technology, Tehran, Iran **Sept. 1997 - Sept. 2001**
B.Sc., Computer Engineering
Thesis: *A Comprehensive Linux Tool Set for Internet service Providers*
Advisor: Dr. Mohsen Sharifi

Work Experience

Yahoo! Labs Inc., Sunnyvale, CA **Research Intern**
Researcher **Jun. 2015 - Aug. 2015**
Document relevancy detection for the stock app of apple that is empowered by Yahoo using a new multi-lingual deep learning model

Yahoo! Inc., Sunnyvale, CA **Engineer Intern**
Applied Researcher **Jun. 2014 - Aug. 2014**
Developing app organizer and recommender models and algorithms for the Yahoo! Aviate system

TOSAN Intelligent Data Miners, Tehran, Iran **Research Scientist**
Applied Researcher **Mar. 2010 - Jul. 2011**
Developing algorithm for credit fraud detection and anti money laundry systems

Islamic Azad University of Parand, Tehran, Iran **Faculty Member**
IT & Computer Eng. (ITC) Department **Sep. 2006 - Jul. 2011**
Teaching:*Data Structure, Artificial Intelligence, Introduction to Algorithm, Discrete Mathematics, Software Engineering, Object Oriented Programming*

Selected Publications

- **Mahdi Pakdaman Naeini**, G. F. Cooper, *"Obtaining Accurate Probabilities using an Ensemble of ℓ_1 Trend Filtering"*, SIAM Data Mining (SDM), Miami, FL, 2016.
- **Mahdi Pakdaman Naeini**, G. F. Cooper, M. Hauskrecht, *"Obtaining Calibrated Probabilities using Bayesian Binning"*, Association for the Advancement of Artificial Intelligence (AAAI), Austin, TX, 2015.

- **Mahdi Pakdaman Naeini**, G. F. Cooper, M. Hauskrecht, *"Binary Classifier Calibration: A Bayesian Non-Parametric Approach"*, SIAM Data Mining (SDM), Vancouver, Canada, 2015.
- **Mahdi Pakdaman Naeini**, I. Batal, Z. Liu, C. Hong, and M. Hauskrecht. *"An Optimization-based Framework to Learn Conditional Random Fields for Multi-label Classification"*. SIAM Data Mining (SDM), Philadelphia, PA, 2014.
- A. Saluja, **Mahdi Pakdaman Naeini**, D. Piao, and A.P. Parikh *"Infinite Mixed Membership Matrix Factorization"*. IEEE 13th International Conference on Data Mining (ICDM) Workshops, Dallas, TX, 2013.
- **Mahdi Pakdaman Naeini**, B. Araabi, B. Moshiri, M. Sadeghi, *"Learning by abstraction: Hierarchical classification model using evidential theoretic approach and Bayesian ensemble model"*. Neurocomputing journal, 2013.
- **Mahdi Pakdaman Naeini**, H. Taromian, and H. B. Hashemi, *"Stock Market value Prediction using Neural Networks"*. International Conference on Computer Information Systems and Industrial Management Applications (CISIM), Krakow, Poland, 2010.
- H. B. Hashemi, A. Shakery, **Mahdi Pakdaman Naeini**, *"Protein Fold Pattern Recognition Using Bayesian Ensemble of RBF Neural Networks"*. International Conference of Soft Computing and Pattern Recognition (SoCPaR), Malacca, Malaysia, 2009.

Preprints

- **Mahdi Pakdaman Naeini**, G. F. Cooper *"Binary Classifier Calibration using an Ensemble of Near Isotonic Regression Models"*, arXiv:1511.05191, 2015.
- **Mahdi Pakdaman Naeini**, G. F. Cooper, M. Hauskrecht, *"Binary Classifier Calibration: Non-Parametric Approach"*, arXiv:1401.3390, 2014.

Awards and Honors

- Andrew Mellon Predoctoral Fellowship awarded by the Dietrich School of Arts and Sciences, University of Pittsburgh, 2015-2016.
- Arts and Sciences Graduate Fellowship, University of Pittsburgh, Spring 2014.
- Arts and Sciences Graduate Fellowship, University of Pittsburgh, 2011-2012.
- Member of robot contest team of University of Tehran, ranked 4th in the nation, 2002.
- Ranked first among entrance students to the University of Tehran of Robotic & AI, 2000.
- Silver Medal in Iranian National Mathematical Olympiad, 1996.
- Honor Diploma in Iranian Computer National Olympiad, 1996.

Professional Services

- **Reviewer for:**
  - Association for the Advancement of Artificial Intelligence (AAAI), 2015
  - International Conference on Machine Learning (ICML), 2015
- **Graduate Students Representative:** Intelligent Systems Program, University of Pittsburgh (2013-2015).
- **Invited Speaker:** *"Introduction to Kernel Methods"*. Automated Fraud Detection workshop, Institute for Research in Fundamental Sciences (IPM), Tehran, Iran, Aug. 2010.
- Mentor of ACM programming team of Azad University of Parand, ranked 14th in 12th Asian Regional ACM Programming Contest, 2010.

Graduate Courses

University of Pittsburgh:

- Machine Learning(A+)
- Advanced ML (A)
- NLP (A)
- BioStatistics (A+)
- Graduate Algorithm(A-)

Carnegie Mellon University:

- Graphical Models (A+)
- Statistical ML (A+)
- Optimization (A-)

University of Tehran:

- Pattern Recognition (20/20)
- Data Mining (19.5/20)
- Fuzzy Logic (17/20)
- Evolutionary Computing(17.5/20)
- Advanced Robotics(18.5/20)

List of References

- **Dr. Gregory F. Cooper**, Department of Biomedical Informatics, University of Pittsburgh
  email: gfc@pitt.edu
  Phone: 412-624-3308
- **Dr. Milos Hauskrecht**, Computer Science Department, University of Pittsburgh
  email: milos@cs.pitt.edu
  Phone: 412-624-8845
- **Dr. Shyam Visweswaran**, Department of Biomedical Informatics, University of Pittsburgh
  email: shv3@pitt.edu
  Phone: 412-648-7119
- **Dr. Jeff Schneider**, Robotic Institute, Carnegie Mellon University
  email: schneide@cs.cmu.edu
  phone: 412-268-2339