Reza Takapoui

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EDUCATION

- **Stanford University**, Stanford, CA.   Sept. 2014 – Present
  - **Ph.D. in Electrical Engineering, Information Systems (GPA: 4.07/4.0)**
    Ranked 2nd in Ph.D. Qualifying Examination among 135 students
    Advisor: Stephen Boyd
- **Stanford University**, Stanford, CA.   Sept. 2012 – June 2014
  - **M.Sc. in Electrical Engineering, Information Systems (GPA: 4.14/4.0)**
- **Sharif University of Technology**, Tehran, Iran.   Sept. 2007 – June 2012
  - **B.Sc. in Electrical Engineering, Communications (GPA: 3.9/4.0)**
    Ranked 2nd in Electrical Engineering department among more than 200 students
  - **B.Sc. in Mathematics, Pure Mathematics (GPA: 4.0/4.0)**
    Ranked 1st in Mathematical Science department among more than 100 students

PROFESSIONAL EXPERIENCE

- **Decision Support Analyst Intern**   Summer 2015
  Data Science Team for Display Ads, Google, Mountain View
  - Parameter estimation for optimal bid generation models
- **Algorithmic Trader Intern**   Summer 2014
  Jump Trading, Chicago and New York
  - Deriving predictions of the prices in future to build trading strategies leveraging supervised and unsupervised learning techniques.
- **Co-Instructor**   Summer 2013
  Graduate course Convex Optimization I, Stanford University

SELECTED HONORS AND AWARDS

- **Numerical Technologies Founders Graduate Fellowship**, Electrical Engineering department, Stanford University.   Sept. 2013
- **Co-teaching Fellowship**, co-instructor for the graduate level course **EE364A - Convex Optimization I**, Stanford University.   June 2013
- 2nd **Rank,** Stanford Ph.D. Qualifying Examination, among 135 students   Jan. 2013
- **Oswald Garrison Villard Jr., Graduate Student Fellowship**, Electrical Engineering, Stanford University.   Sept. 2012
- **First Prize**, 17th International Mathematical Competition for university students (IMC), Blagoevgrad , Bulgaria.   Sept. 2010
- **Grand First Prize** and **Gold Medal**, 34th Iranian Mathematics Society (IMS) Competition, Kashan, Iran.   Apr. 2010
- **Silver Medal**, 48th International Mathematical Olympiad (IMO), Hanoi, Vietnam.   Sept. 2007
- **Gold Medal**, 24th National Mathematical Olympiad, Tehran, Iran.   Aug. 2006

COMPUTER SKILLS

- C, C++, Python, R, Matlab, Simulink, Java, Apache Hadoop, Mathematica, Mathcad, LaTeX

Publications

- S. Diamond, **R. Takapoui**, S. Boyd, "A General System for Heuristic Solution of Convex Problems over Nonconvex Sets", 2016
- **R. Takapoui**, N. Moehle, S. Boyd, A. Bemporad, "A Simple Effective Heuristic for Embedded Mixed-Integer Quadratic Programming", 2015
- M. Udell, **R. Takapoui** "Linear Bandits, Matrix Completion, and Recommendation Systems", workshop on Large Scale Matrix Analysis and Inference, Neural Information Processing Systems (NIPS) 2013, Lake Tahoe, Nevada, United States
- Sh. Dashmiz, **R. Takapoui**, P. Pad, F. Marvasti, "New Bounds for the Sum Capacity of Binary and Nonbinary Synchronous CDMA Systems", *IEEE International Symposium on Information Theory (ISIT),* Texas, United States, 2010.
- **R. Takapoui**, S. Dashmiz, M. Abolhasani, F. Marvasti, "A Generalization of CDMA Systems and Derivation of New Bounds for the Sum Capacity", *IET* Communications.

Research Experience

- **Ph.D. Candidate,** Information Systems Laboratory, Stanford University. Jul. 2013 – Present
  Advisor: Prof. S. Boyd, Fields of research:
    - Approximate solutions for embedded mixed-integer quadratic programming
    - Quasi-Newton methods for conic optimization via homogeneous self-dual embedding
    - Optimal preconditioning for the Alternating Direction Method of Multipliers (ADMM)
- **Research Assistant**, Multimedia Laboratory, Advanced Communications Research Institute (ACRI), Sharif University of Technology.   Aug. 2009 – Sept. 2012
  Advisor: Prof. F. Marvasti, Fields of Research:
    - Developing a class of errorless codes for overloaded CDMA systems using combinatorial methods
- **Intern and Research Assistant**, Man-Machine Interaction Group, Delft University of Technology, Delft, Netherlands.   June 2010 – Sept. 2012
  Advisor: Prof. L. J. M. Rothkrantz, Fields of Research:
    - Euclidean distance estimation with hopcount distance in mobile ad-hoc networks using realistic models

Selected Courses

- Machine Learning (A. Ng) - Mining Massive Datasets - Hadoop Labs (J. Leskovec)
- Statistical Learning Theory - Artificial Intelligence: Principles and Techniques (P. Liang)
- Inference, Estimation, and Information Processing (A. Montanari)
- Linear Dynamical Systems - Convex Optimization I, II - Stochastic Control (S. Boyd)
- Analysis of Big Data in Transportation - Statistical Signal Processing (B. Prabhakar)
- Advanced Topic in Convex Optimization (E. Candes), Randomized Algorithms (G. Valiant)
- Spectral Graph Theory and Algorithmic Applications (A. Saberi)

Other Professional Experience

- Teaching Assistant, Convex Optimization II, Stanford University   Spring 2015
- Teaching Assistant, Convex Optimization I, Stanford University   Winter 2015
- Teaching Assistant, Linear Dynamical Systems, Stanford University   Autumn 2014
- Trainer and Co-leader of Sharif University Team to International Mathematical Competition for University Students (IMC) 2011   Summer 2011
- Intern, *Man-Machine Interaction Group* , TU Delft, Delft, Netherlands.   Summer 2010
- Problem Designer of National Mathematical Olympiad   Fall and Spring 2008