

Ehsan Ebrahimzadeh

Electrical Engineering Department
University of California Los Angeles
Los Angeles, CA 90095

Email: eebrahim@ucla.edu
<http://eebrahim.bol.ucla.edu>

- SUMMARY** Data scientist and PhD candidate with solid background in Statistics, Machine Learning, and Programming. Expert in Text Data Analysis and Statistical Modeling. Experienced with statistical data analysis and programming languages including Python, R, Matlab and C.
- EDUCATION**
- University of California Los Angeles (UCLA)**, Los Angeles, CA, Sept 2013 - Present
 - ◇ PhD in Electrical Engineering- Signals and Systems-Complex Networks Group
Research topics: Online Learning-Causal Inference-Text Mining
 - ◇ Master of Science in Applied Mathematics
University of Waterloo, Waterloo, ON, Canada, Sept 2011 -Aug 2013
 - ◇ Master of Applied Science in Electrical Engineering
Research topics: Information Theory-Random Graphs
Isfahan University of Technology, Isfahan, IRAN, Sept 2006 -June 2011
 - ◇ Bachelor of Science in Electrical Engineering- Communications
 - ◇ Bachelor of Science in Pure Mathematics
- RELEVANT SKILLS**
- ◇ **Programming:** Python, R, MATLAB, C
 - ◇ **Algorithms:** Experienced in machine learning algorithms, statistical and numerical methods; convex optimization(**CVX**)
 - ◇ **Data:** Experienced in collecting and analyzing data; network visualization, familiar with big data frameworks such as MapReduce
 - ◇ **Statistics:** Multivariate analysis and regression; Monte Carlo Simulation; structural equation modeling; Bayesian networks and Hypothesis Testing
 - ◇ **Machine Learning:** Online Learning; Classification algorithms
- WORK EXPERIENCE**
- ◇ **Summer Internship**, Telecom ParisTech, Paris, France Summer 2014
Sequential detection of transient changes in the statistical behavior of streaming data.
 - ◇ **Consulting**, Albeado, Santa Clara, CA Summer 2015
Developing an integrated framework for managing Patient/Health system data equipped with Causal Inference.[**Coding in Python and R**]
- SELECTED PROJECTS**
- ◇ **Chasing Exemptions: Social Media, Big Data, and the Measles Crisis**, UCLA, 2015
Building the narrative behind a corpus of unstructured text; by first identifying the significant actants and characterizing their relationships. [**Data analysis and management in Python and MongoDB**]
 - ◇ **Designing a Recommendation System by Learning from User Experience**, UCLA, 2015
1)Developing fast optimization techniques for factorizing large matrices into lower dimensional ones to exploit collaborative filtering.[**coding in MATLAB**]
2) Building co-actor network of movies and user interest graphs and perform community detection and predict new rankings based on community average rank[**coding in Python and R**]
 - ◇ **Crawling and Statistical Analysis of Twitter Data**, UCLA 2015
Crawling and analyzing millions of Twits related to “Super bowl 2015” for future activity prediction and sentiment analysis.[**coding in Python**]
 - ◇ **Finding a Needle in a Haystack Efficiently**, Telecom ParisTech, 2014
Reliable detection of small rare changes in the statistical behavior of random data by monitoring only a fraction of data instances
 - ◇ **Identifying Strong Social Ties in an Individual’s Personal Network**, UCLA 2014
Analyzing users’ personal network in Facebook and Google+ to find new measures of community detection and identifying social ties[**coding in R-igraph package**]

◇ **Estimating the Diameter of Random Networks**, University of Waterloo, 2014
 Probabilistic analysis of the small world phenomenon, i.e. small diameter compared to the the number of nodes, in random networks

DISTINCTIONS UCLA graduate division summer fellowship, 2015
 University of California, Los Angeles Electrical Engineering Department Fellowship, 2013
 University of Waterloo Graduate Scholarship, 2012
 Faculty of Engineering Award(**FOE**), University of Waterloo, 2011
 Awarded as **Outstanding Student** by Isfahan University of Technology president, 2006-2010

RESEARCH ◇ Online Learning, Sequential Analysis
INTERESTS ◇ Causal Inference
 ◇ Machine Learning , Probabilistic Modeling, Probability Theory
 ◇ Text mining, Cultural Analytics
 ◇ Modeling and Analysis of Large Complex Networks
 ◇ Information Theory
 ◇ Algorithms, Graph Theory, Combinatorics

TEACHING ◇ **Teaching Assistant**
EXPERIENCE Graphs and Network Flows UCLA, 2015
 Social Media, Web and the Cloud: Models, Visualization, and Prediction UCLA, 2015
 Probability and Statistics UCLA, 2014-15
 Information Theory UCLA, 2014
 Signals and Systems and Digital communication IUT, 2009 - 2010

JOURNAL PAPERS [1] Chasing Exemptions: Social Media, Big Data, and the Measles Crisis
 E. Ebrahimzadeh, M. Falahi, V. Roychowdhury, T. Tangherlini, A. Wadia
 Submitted to *Proceedings of the National Academy of Sciences*, Nov. 2015
 [2] Signalling Over Two-User Parallel Gaussian Interference Channels: Outage Analysis
 E. Ebrahimzadeh, k. Moshksar, A. Khandani.
 accepted for publication in *IEEE Transactions on Information Theory*, Oct. 2015
 [3] On Longest Paths and Diameter in Random Apollonian Networks
 E. Ebrahimzadeh, L. Farczadi, P. Gao, A. Mehrabian, C. Sato, N. Wormald, J. Zung.
 in *Random Structures and Algorithms(RSA)*, Vol. 45, Issue 4, Dec. 2014
 [4] On the Capability of Greedy Codeword Assignment Scheme in Finding Fix-Free Codes
 E. Ebrahimzadeh, M. Khosravifard, A. Aghajan and T. Aaron Gulliver.
 accepted for publication in *IEICE Transactions on Fundamentals of Communications*, July 2011.

CONFERENCE PAPERS [1] Sequential Detection of Transient Changes in Stochastic Systems under a Sampling Constraint
 E. Ebrahimzadeh, A. Tchamkerten
 To appear in *proceeding of International Symposium on Information Theory(ISIT) 2015*, Hong Kong.
 [2] Two-User Parallel Gaussian Interference Channels: Outage Analysis
 E. Ebrahimzadeh, k. Moshksar, A. Khandani.
 To appear in *proceeding of International Symposium on Information Theory(ISIT) 2015*, Hong Kong.
 [3] On The Longest Path and The Diameter in Random Apollonian Networks
 E. Ebrahimzadeh, L. Farczadi, P. Gao, A. Mehrabian, C. Sato, N. Wormald, J. Zung.
 in *Electronic Notes in Discrete Mathematics 43: 355-365 (2013)*
 [4] Random Access in Wireless X-Networks: A Deterministic View
 S. Mahboubi, E. Ebrahimzadeh, A. Khandani.
 in *proceeding of International Symposium on Information Theory(ISIT) 2012*, Boston, MA.

RELEVANT COURSES Linear Programing, Convex Optimization, Matrix Analysis
 Graphs and Network Flows, Stochastic Processes, Probability Theory A&B
 Combinatorial Theory A&B, Coding Theory, Theoretical Statistics
 Information Theory, Network Information Theory, Digital Communication
 Graph Theory, Random Graphs, Statistical Learning Theory