Hooshmand Shokri Razaghi

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EDUCATION

Columbia University — **New York, NY**
PhD Candidate in Computer Science — Expected May 2019
Relevant courseworks : Foundation of Graphical Models, Convex Optimization, Statistical Analysis of Neural Data, Probabilistic Models for Discrete Data.

Columbia University — **New York, NY**
MS in Computer Science — Dec 2014
Relevant courseworks: Machine Learning, Computer Vision, Statistical Machine Learning, Optimization I, Analysis of Algorithms, Artificial Intelligence, Social Networks Analyisis.

Sharif University of Technology — **Tehran, Iran**
BS in Computer Engineering (Software Engineering) — June 2012

PUBLICATIONS & PRESENTAION

YASS: Yet Another Spike Sorter
(With Jin Hyung Lee, David Carlson, Espen Hagen, Gaute Einevoll,Liam Paninski), *NIPS 2017*.

Omnimixture: Enriched Topic Modeling
(With Lauren A. Hannah, Rebecca J. Passonneau, Ruilin Zhong), *In Progress*.

Adaptive Stochastic Controllser for Smart Buildings
(With Roger N. Anderson, Albert Boulanger, Promiti Dutta, and Ashish Gagneja), *New York Academy of Sciences ML Conference, 2014*.

Di-BOSS: Digital Building Operating System Solution
(With Roger N. Anderson, Albert Boulanger, Vaibhav Bhandari, Jessica Forde, Ashwath Rajan, Vivek Rathod), *NIPS, 2013*.

An Efficient Simulated Annealing Approach to Traveling Tournament Problem
(With Sevnaz Nourollahi, Kourosh Eshghi), *American Journal of Operations Research, AJOR, Vol.2 No.3, September 2012*.

Guarding A Terrain by Two Watch Towers
(Advisor: Prof. M. Abam), *Bachelor Thesis*.

WORK EXPERIENCE

Ph.D. Software Engineering Intern — Jun 2017 - Sep 2017
Google Inc. — Mountain View, CA

- AdsQuality. Model understanding and Bayesian inference for deep learning

Research Coordinator — Jan 2014 - Aug 2014
CCLS, Columbia University — New York, NY

- Member of R&D team for development of software solution for energy forecast and optimization for smart buildings
- Proposed and implemented real-time recommendations system for start-up and ramp-down of HVAC systems

PROJECTS

Dense Multi-Electrode Arrays Neural Spike Sorting — June 2016 - Present

- Spike sorting for large scale multi-electrode recording of neural activity

Enriched Topic Modeling — Jan 2016 - June 2016

- Implemented pipeline to produce novel low dimensional representation of documents that exploits probabilistic topic models (e.g. LDA) and syntactic and frame semantic information
- Implemented Visualization framework for Omnigraph representation of text

Electric Bus Feasibility Study Sep 2015 - Dec 2015

- Proposed and implemented a feature engineering method for public transport data and generative mixture model to cluster bus trips
- Proposed and implemented a heuristic search algorithm to solve optimum locations for wireless charger pads for electric buses exploiting the patterns discovered in recorded data

Di-BOSS, Digital Building Operating System Solution Sep 2014 - June 2015

- Proposed and implemented a real-time forecast/stochastic control system for smart buildings based on history and live stream of recording from sensors, meters, etc. using ensemble auto-regressive models and sparse gradient approximation

Haplotype Phasing Using IBD segments of Genome Jan 2013 - June 2013

- Proposed and implemented a probabilistic model to phase heterozygote sites on genome using genomic information of the cohort, by casting the inference problem to an approximate optimization one

TEACHING EXPERIENCE

Instructor June 2015 - Aug 2015
Introduction to Calculus Barnard College, New York, NY

Head Teaching Assistant Sep 2015 - Dec 2015.
Discrete Mathematics Columbia University, New York, NY

HONORS & AWARDS

- ◇ Member of The **National Organization for Development of Exceptional Talents**, Iran.
- ◇ Among 0.1% top contenders in National University Entrance Exam, 2007, Iran.

SKILLS

Programming Languages: Python, C++, Java, MATLAB, R.
Machine Learning and Data Analysis: TensorFlow, Theano, Scikit-Learn.
Distributed: MapReduce, Hadoop, Spark.
Operating Systems: Linux/UNIX, Mac, Microsoft Windows.

last update: January 31, 2018