Houshmand Shirani-Mehr

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Work Authorization: US Citizen

EDUCATION

Stanford University — *Stanford, CA*
Ph.D. in Management Science & Engineering - Data Science, GPA: 4.01 — *2013 - Present*

University of California, Davis — *Davis, CA*
M.Sc. in Computer Engineering, GPA: 3.91 — *2009 - 2011*

Sharif University of Technology — *Tehran, Iran*
B.Sc. in Electrical Engineering — *2005 - 2009*

EXPERIENCE

Facebook — *Menlo Park, CA*
Data Science Intern - Messenger Growth Analytics — *06/2016 - 09/2016*

- Analyzied content people share on Facebook Messenger (the fastest growing App in 2015) to gather insights and propose features to increase engagement.

IBM Research — *Almaden, CA*
Research Summer Intern - Smart Sensor Analytics — *06/2015 - 09/2015*

- Developed the first iteration of analytics pipeline for sensor array data, including the backend and frontend of a database, and the analytics engine for classification on data.

Intel Corporation — *Folsom, CA*
Component Designer - Media Design Group — *08/2011 - 04/2014*

- Designed and validated multiple video processing units for graphics core of Intel processors.
- Executed various steps of validation including test planning, functional coverage, code coverage, and performance evaluation.
- Contributed to automation of verification flows using scripting in Unix-based environments.

VLSI Computation Lab — *Davis, CA*
Graduate Student Researcher — *03/2010 - 07/2011*

- Developed Permutational LDPC Decoding Algorithm for WiFi and WPAN, achieving 30% increase in speed and 24% decrease in area of the decoder with no decline in performance.
- Contributed to optimization of LDPC decoding message passing Algorithms for VLSI Implementations based on statistical properties, resulting in 4.6 times improvement in power consumption compared to the state of the art decoders.
- Aided to design of early termination algorithms in LDPC decoders which provided 2.4 times improvement in power dissipation of the hardware.

PUBLICATIONS

- *Going beyond national elections - using Bayesian methods and Big Data to predict the House elections*
  With Tobias Konitzer, Sharad Goel, and David Rothschild. Working paper.
- *One Person, One Vote? Estimating the Prevalence of Double Voting in U.S. Presidential Elections*
  With Sharad Goel, Marc Meredith, Michael Morse, and David Rothschild. Working paper.
- *Disentangling Total Error, Bias, and Variance in Election Polls*
  With Sharad Goel, David Rothschild, and Andrew Gelman. Under review.
- *LDPC Decoder with an Adaptive Wordwidth Datapath for Energy and BER Co-optimization*
  With Tinoosh Mohsenin and Bevan M. Baas.
  VLSI Design, vol. 2013.
- *A Reduced Routing Network Architecture for Partial Parallel LDPC Decoders*
  With Tinoosh Mohsenin and Bevan M. Baas.
  IEEE Asilomar Conference on Signals, Systems and Computers, November 2011.

- *Low Power LDPC Decoder with Efficient Stopping Scheme for Undecodable Blocks*
  With Tinoosh Mohsenin and Bevan M. Baas.
  IEEE International Symposium on Circuits and systems, May 2011.

SELECTED GRADUATE COURSEWORK

Management Science & Engineering:
The Structure of Social Data, Computational Social Science, Simulation, Linear & Nonlinear Optimization, Investment Science, Accounting for Managers & Entrepreneurs, Decision Analysis, Risk Analysis.

Computer Science:
Deep Learning for Natural Language Processing, Optimization & Algorithmic Paradigms, Mining Massive Data sets, Machine Learning, Convex Optimization, Artificial Intelligence, Scientific Computing, Artificial Neural Networks, Design & Analysis of Algorithms (Audited).

Statistics:
Modern Applied Statistics: Data Mining, Modern Applied Statistics: Learning, Methods for Applied Statistics, Applied Statistics: Linear Models, Data Mining.

SELECTED COURSE PROJECTS

Machine Learning & Artificial Intelligence:
- Applications of deep learning to sentiment analysis of movie reviews
- Application of machine learning to SMS spam detection
- Classification of male and female portraits using metric learning
- Prediction of interests for Netflix users using graphical modeling
- A quantitative approach to personal network name generators
- A survey on clustering algorithms in biology and results on gene expression data
- Signature verification using ART-2 neural networks

Optimization:
- Study of call-auction models in offline and online prediction markets
- A survey on applications of convex optimization to finance and inventory theory

ACTIVITIES

- Helped with starting and volunteered at the first Data Science Drop-in at Stanford University, a free consulting service supervised by Prof. Sharad Goel to help Stanford community in all aspects of data collection, cleaning, analysis, and visualization, 10/2014 - 04/2015.
- Event Coordinator at Persian Employee Association of Intel at Folsom, CA, 01/2012 - 12/2013.

HONORS AND AWARDS

- Stanford School of Engineering Fellowship, 2015-2016.
- Intel Divisional Recognition Award, Visual & Parallel Computing Group (VPG), 2013.
- Graduate fellowship from University of California, Davis, 2009-2010.

TECHNICAL SKILLS

Programming Languages:
C, C++, Perl, Python, Java, SQL, Verilog.

Tools & Packages:
R, MATLAB, Simulink, Microsoft Excel.