Mehdi Korjani

U.S Green Card Holder

Phone: (323) 236-9903 • Email: korjani@gmail.com

http://www.korjani.com

Summary of Qualification

Ph.D. in Electrical Engineering with analytical problem solving abilities in deep learning, machine learning, data mining, and analytical modeling and over ten years of experience in machine learning algorithm design and modeling in a variety of applications including text analysis, audio processing, signal processing, Robotic

- Skills: Deep learning, Machine learning, Data Mining, Pattern Recognition, Neural Networks, Fuzzy Logic, Recommendation Systems, Nonlinear Regression, Optimization, Signal Processing
- Programming: Python, Tensorflow, Keras, Sklearn, Numpy, Spacy, MATLAB, SQL
- Experienced in Google cloud platform (ML engine, data storages and Container/Docker), Amazon AWS
- Research Skills: Excellent mathematical and statistical machine learning analysis and independent research skills

Education

- Post-doctoral researcher, University of Southern California — Jun. 2016
- Ph.D., Electrical Engineering, Signal Processing, University of Southern California, GPA: 3.87 — Aug. 2015
- M.Sc., Electrical Engineering, Signal Processing, University of Southern California, GPA: 3.92 — May 2013

Experience

KPMG, Senior Associate, Irvine, CA — July 2017-present

• Developed recommendation engine based on deep learning algorithm on Google Cloud Platform

• Develop Chatbots using NLP and deep learning and present them in KPMG Lighthouse

• Developed time series modeling to forecast ambulance demands in Victoria, Australia considering historical events, population, air pollution, weather and traffic data using deep learning algorithm

Oben Artificial Intelligence, Research Scientist, Pasadena, CA — Jun. 2016-July 2018

• Developing deep learning algorithms on variety of application including audio processing and text analysis

• Lyrics generation and natural language processing using developing deep learning algorithms, word2vec, natural language translation and classification.

• Speech enhancement and voice activity detection using deep Learning algorithms to remove background noise from speech data, patented on Feb 2017.

• Speaker verification and identification using machine learning algorithms to determine speaker identify, patented on Sep. 2016

Chevron Inc., Researcher, Bakersfield, CA — Aug. 2015-June 2016

- Developed Deep Learning Neural Network for reservoir modeling and prediction of oil production, published 2 papers
- Developed adaptive non-linear regression algorithm for fracture optimization for unconventional reservoirs, published a patent on Dec. 2015

National Science Foundation (NSF), Co-Principal Investigator, Los Angeles, CA — Jan. 2016-June 2016

- Develop algorithms for creating sense of touch, over the air, using high frequency ultrasound transducers, won first place, NSF I-Corps Georgia Tech cohort

CiSoft, Research Assistant, Los Angeles, CA — Jan. 2010-Aug. 2015

- Intelligent Knowledge Acquisition Systems: From Descriptive to Predictive Models
- Developed a parametric nonlinear regression method for forecasting multivariate function
- Modeling databases and generating rules/patterns from data, summarized the database in linguistic format, transformed data into knowledge
- Mathematically developed a causality model to find the combination of causal conditions for a desired outcome

Medtronic Inc., Data Scientist, Northridge, CA May 2014-Aug. 2014

- Developed a new algorithm for modeling Continuous Glucose Monitoring (CGM) using the Unscented Kalman filtering, patented on Dec. 2015
- Analyzed and quantified large amounts of data of blood glucose to interpret results to aid product development, decisions and designs

Amada Miyachi, Software Engineer, Monrovia, CA May 2013-Aug. 2013

- Feature extraction and selection for classification of Resistance welding quality and forecasting weld quality
- Developing motion controller and PLCs for robotic applications using Programmable Multi-Axis Controller

AUT Robotic Center, Software Engineer, Tehran Jun. 2003-Feb. 2009

- Implemented machine learning methods for multi-agent decision making and path planning algorithmss

Patents

- **M. M. Korjani**, "*Deep learning speech enhancement model using dynamic noise profile estimation*," Application Number: 62461725, filed on Feb. 2017.
- M. M. Korjani, "*Speaker Recognition Using Deep Learning*," Application Number: 62393597, filed on Sep. 2016.
- A. Varsavsky, J. Mung, Y. Lu, and **M. M. Korjani**, U.S. Application No. 14/980114, "*Sensor-unspecific Calibration Methods and Systems*," Published on Jun. 2017.
- **M. M. Korjani**, J. Mendel, and F. Liu, 70205.0493US01 "*A predictive model of tight oil reservoi*r," granted on Dec. 2015.
- **M. M. Korjani**, M. Milani, and A. Sarafi, IR52906, "*Real time vehicle tracking system using Thuraya satellite network*," Granted: Feb. 2009.

Achievements

- Best Team Award, NSF I-Corps program, Georgia Institute of Technology Cohort Mar. 2016
- Selected as a professional with exceptional ability (National Interest Waiver) Mar. 2015
- First Place Winner of The FRF's Second International Paper Competition Oct. 2012
- Best Paper Award, NAFIPS Conference, Berkeley, Aug. 2012
- Award: Winner of the University's Chancellor Award Mar. 2009
- Ranked 1st in International Kharazmi Competitions, Simulation design Nov.2008
- Ranked 2nd in graduating class of Electrical Engineering, Amirkabir University of Technology Feb. 2009
- Ranked 473th in National University Entrance Exam for B.Sc. degree among +450,000 participants Sep. 2002

Selected Publications

1. **M. M. Korjani**, A. Popa, E. Grijalva, S. Cassidy, I. Ershaghi, "Reservoir Characterization using Fuzzy Kriging and Deep Learning Neural Networks," ATCE, SPE 181578, 2016.
2. **M. Korjani**, A. Popa, I. Ershaghi, "A New Approach to Reservoir Characterization Using Deep Learning Neural Networks," SPE-180359-MS, 2016.
3. A. Bakshi, E. Uniacke, **M. M. Korjani**, I. Ershaghi, "A Novel Adaptive Non-Linear Regression Method to Predict Shale Oil Well Performance Based on Well Completions and Fracturing Data," WRM, SPE 185695, 2017.
4. J. M. Mendel and **M. M. Korjani**, "On establishing nonlinear combinations of variables from small to big data for use in later processing," *Information Sciences*, vol. 280, no. 0, pp. 98–110, 2014.
5. **M. M. Korjani** and J. M. Mendel, "Non-linear Variable Structure Regression (VSR) and its Application in Time-series Forecasting," *IEEE International Conference on Fuzzy Systems (FUZZ-IEEE)*, pp. 497-504, July 2014.
6. J. M. Mendel and **M. M. Korjani**, "Charles Ragin's Fuzzy Set Qualitative Comparative Analysis (fsQCA) used for linguistic summarizations," *Information Sciences*, Vol. 202, pp. 1-23, 2012.
7. **M. M. Korjani** and J. M., Mendel, "Fuzzy set Qualitative Comparative Analysis (fsQCA): Challenges and applications," *Fuzzy Information Processing Society (NAFIPS),* 2012 **(Best paper award)**.
8. **M. M. Korjani**, O. Bazaz, and M. B. Menhaj, "Real time identification and control of dynamic systems using recurrent neural networks," *Journal of Artificial Intelligence Review*, pp. 1-17, 2008.
9. **M. M. Korjani** and J. M., Mendel, "Fuzzy Love Selection by means of Perceptual Computing," *IFSA World Congress and NAFIPS Annual Meeting (IFSA/NAFIPS)*, pp.766-770, 2013.