

Saeed Mozaffari
Associate Professor

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# **WORK EXPERIENCE:**

- Jul 2016- Aug 2016: Visiting scientist, IfN, Technical University of Braunschweig, Germany.
  - Developing semantic segmentation for self-driving cars
- 2007- Present: Faculty member in Electrical and Computer Engineering Department at Semnan University, Semnan, Iran.
  - Conducting reserach in Computer Vision, Deep learning, pattern Recognition

# **EDUCATION:**

 2001-2007: PhD, Electrical Engineering Amirkabir University of Technology, Tehran, Iran.

Dissertation: Offline recognition of handwritten city names

Advisor: Prof. Karim Faez

 2006-2007: Visiting Student, Electrical Engineering Technical University of Braunschweig, Germany. Supervisor: Dr. Volker Maergner

 1999-2001: M.Sc. Electrical Engineering Amirkabir University of Technology, Tehran, Iran.

Thesis: Layout Design and simulation of an integrated optical reciver with

CMOS technology

Advisor: Dr. Hassan Katuzian

1995-1999: B.Sc. Electrical Engineering.
 Amirkabir University of Technology, Tehran, Iran.

Project: Design and implementation of TV bigscreen system

Advisor: Amir Kashi

## RESEARCH INTERESTS:

- Pattern Recognition
- Image Processing
- Computer Vision
- Machine Learning
- Deep Learning

# **SCHOLARSHIPS:**

- 2001-2005: Ph.D. scholarship form Iranian Ministry of Science, Research and Technology.
- 2006-2007: research scholarship from Technical University of Braunschweig, Germany.

# **TEACHING EXPERIENCE:**

- Semnan University, ECE Department, Semnan Iran
  - Deep Learning (graduate course)
  - Image Processing (graduate course)
  - Computer Vision (graduate course)
  - Statistical Pattern Recognition (graduate course)
  - Electronics (undergraduate course)

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- Azad University of Qazvin, ECE Department, Qazvin, Iran
  - Neural Networks (graduate course)
  - Evolutionary Computing (graduate course)
  - Statistical Pattern Recognition (graduate course)
- Parseh graduate Institute, ECE Department, Tehran, Iran
  - Technical English

# PROGRAMMING LANGUAGE:

- MATLAB
- Python
- C/C++

#### **TECHNICAL SKILLS:**

- Deep learning frameworks (Caffe, Tensorfolw)
- Computer vision tool (OpenCV)
- MATLAB Toolbox (Image/Signal Processing, Genetic Algorithms, Neural Networks, Statistical pattern Recognition).
- Microsoft Office and LaTeX.

# LANGUAGES:

Persian (Farsi): Fluent (mother tongue)

English: Fluent

• German: Intermediate (B1)

• French: Beginner (A1)

## STUDENTS SUPERVISION

Supervision of 5 Ph.D. thesis, ECE Dep, Semnan University, 2015.

Supervision of 40 MSc thesis, ECE Dep, Semnan University.

Supervision of more than 30 BS final projects, ECE Dep, Semnan University.

#### **INVITED TALKS:**

- "Urban scene semantic segmentation with deep neural networks" IfN TU Braunshweig, Germany, 2016.
- "Farsi OCR on the web: chalanges and solutions", Supreme Concile of Information and Communication Technology, Iran, 2008.
- "Handwritten digits and characters recognition for postal automation",
   Siemens Company, Germany, 2006.
- "Handwritten words recognition with HMM", IfN TU Braunshweig, Germany, 2006.

# **PUBLICATIONS:**

## **Books and Book Chapters:**

- 1- Saeed Mozaffari, Application of Fractal Theory in Farsi/Arabic Document Analysis, Guide to OCR for Arabic Scripts, V.Maergner and H.El Abed (Eds), ISBN: 978-1-4471-4071-9, Springer-Verlag, Germany, pp.315-333, 2012.
- 2- Saeed Mozaffari and Karim Faez, Handwritten online and offline large datasets for Farsi document recognition, bulletin of Farsi OCR, ISBN:978-964-88-46-14-0, 2009 (in Farsi).
- 3- Saeed Mozaffari," Technical English for IT and Computer Engineers", ISBN:978-600-5000-48-1, 2010.
- 4- Saeed Mozaffari, Technical English for Electrical Engineers, ISBN:978-600-5000-47-4, 2010.
- 5- Saeed Mozaffari, Karim Faez, and Volker Maergner "Application of Fractal Theory for On-line and Off-line Farsi Digit Recognition", Machine learning and data mining in pattern recognition, Lecture Notes in Computer Science, Vol 4571, DOI: 10.1007/978-3-540-73499-4, 2007.

## **Selected Journal Papers:**

- 1- Motahareh Taheri, Saeed Mozaffari and Parviz Keshavarzi, " Face authentication in encrypted domain based on correlation filters", Multimedia Tools and Applications (MTA), 77 (13), pp.17043-17067, 2018.
- 2- Reza Tavoli, Mohammad Reza Keyvanpour and Saeed Mozaffari, "Statistical geometric components of straight lines (SGCSL) feature extraction method for offline Arabic/Persian handwritten words recognition", IET Image Processing, 2018.
- 3- Saeed Mozaffari, "Parallel image encryption with bitplane decomposition and genetic algorithm", Multimedia Tools and Applications (MTA), pp. 1-21, 2018.
- 4- Hossein Moeini Saeed Mozaffari, "Gender dictionary learning for gender classification", Journal of Visual Communication and Image Representation Vol 42, pp.1-13, 2016.
- 5- Motahareh Taheri and Saeed Mozaffari, "Cancelable Face Verification system using Optical Encryption and Authentication method", Journal of Optical Society of America (OSA) A, Vol 32, No 10, pp.1772-1779, Oct, 2015.
- 6- Reza Davarzani, Saeed Mozaffari and Khashayar Yaghmaie, "Scale- and Rotation-Invariant Texture Description with Improved Local Binary Pattern Features", Signal Processing (**SP**), Volume 111, pp. 274–293, June 2015,
- 7- Reza Davarzani, Saeed Mozaffari and Khashayar Yaghmaie, "Perceptual Image Hashing using Center-Symmetric Local Binary Patterns", Mutlimedia Tools and Applications (MTA), March 2015.
- 8- Akram-sadad Hajian Nejad and Saeed Mozaffari, "Font Discrimination Using Fractal Dimensions", Iranian Journal Of Electrical & Electronic Engineering (IJEEE), Vol.10, No.3, pp. 176-187, Sep 2014.
- 9- Fatemeh Daraee and Saeed Mozaffari," Watermarking in binary document images using fractal coding", Special Issue on Frontiers in Handwritten Processing, Journal of Pattern Recognition Letters (**PRL**), 35, pp.120-129, 2014.
- 10-Reza Davarzani, Khashayar Yaghmaie, Saeed Mozaffari and Meysam Tapak," Copy-move forgery detection using multiresolution local binary patterns", Forensic Science International (**FSI**), 231(1-3), pp.61-72, 2013.
- 11- Motahareh Taheri and Saeed Mozaffari, "Phase mask generation for DRPE method using Chaos theory and Hash function", Elsevier, **OPTIK**, (124 (16), pp. 2363–2367, 2013.
- 12- Modiedin Moradi and Saeed Mozaffari, A hybrid approach for Farsi/Arabic text detection and localization in video frames", **IET** Image Processing, 7(2), pp.154-64, 2013.
- 13-Mohamadreza Maddah and Saeed Mozaffari, "Face verification using local binary pattern unconstarined minimum average correlation energy

- correlation filters", Journal of Optical Society of America A (**OSA**), 29 (8) pp.1717-1721, 2012.
- 14-Rohollah Akbari and Saeed Mozaffari, "Gender Estimation using Single Exemplar of Frontal Facial Image per Person", International Journal of Advanced Science and Technology, pp. 1-18, Vol. 40, March, 2012.
- 15-Rohollah Akbari and Saeed Mozaffari, "Fuzzy Moments Method for Face Recognition in an Ethnic Database", International Journal of Signal Processing, Image Processing and Pattern Recognition, pp. 85-98, Vol. 5, No. 1, March, 2012.
- 16-Keyvan Jaferzadeh, Korush Kiani and Saeed Mozaffari, Acceleration of Fractal Image Compression Using Fuzzy Clustering and DCT Based Metric, IET Image Processing,pp. 1024-1030, 2012.
- 17-Saeed Mozaffari, Karim Faez, Volker Maergner and Heikal El-Abed, "Two-Stage Lexicon Reduction for Off-line Arabic Handwritten word Recognition", International Journal of Pattern Recognition and Artificial Intelligent (IJPRAI) 22 (7),pp.1323-1341, 2008.
- 18-Saeed Mozaffari and Karim Faez, Volker Maergner and Heikal El-Abed, "Lexicon Reduction Using Dots for Off-line Farsi/Arabic Handwritten Word Recognition" Journal of Pattern Recognition Letters (**PRL**), 29 (6), pp. 724-734, 2008.

And more than 10 other journal papers.

#### **Selected Conference Papers:**

- 1- R.Davarzani and S. Mozaffari, "Robust Image Description with Weighted and Adaptive Local Binary Pattern Features", **IEEE** Int. Conference of Pattern Recognition (ICPR), pp. 1097 1102, Aug. 2014.
- 2- H. Moeini, A.Moeini, saeed mozaffari, "Makeup-Invariant Face Recognition by combination of Local Binary Pattern and Dual-Tree Complex Wavelet Transform from Women's Images",, 7th International Symposium on Telecommunication (IST), Published by IEEE, pp.497-501, 2014.
- 3- AR Ghods, S Mozaffari, F Ahmadpanahi, Document image dewarping using Kinect depth sensor, Iranian Conference on Electrical Engineering (ICEE), Published by IEEE, pp. 1-6, 2013.
- 4- Saeed Mozaffari and Parnia Bahar, "Farsi/Arabic handwritten from machine-printed words discrimination", International Corkshop on Frontiers in Handwriting Recognition (ICFHR), pp. 694-699,2012.
- 5- Saeed Mozaffari and Hamid Behravan, "Twins facial similarity impact on conventional face recognition systems", Iranian Conference on Electrical Engineering (ICEE), Published by IEEE, pp. 1-6, 2011.
- 6- Mazaheri and Saeed Mozaffari, "Real time adaptive background estimation and road segmentation for vehicle classification", Iranian Conference on Electrical Engineering (ICEE), Published by **IEEE**, pp. 1-6, 2011.

- 7- Saeed Mozaffari, Hamid Behravan, Rohollah Akbari, "Gender Classification Using Single Frontal Image Per Person: Combination of Appearance and Geometric Based Features", IEEE International Conference on Pattern Recognition (ICPR), pp.1192-1195, 2010.
- 8- Farshid Allahverdi, Karim Faez and Saeed Mozaffari, Fast image transmission and resolution enhancement based on SR and NLM methods, International Conference on Information Retrieval & Knowledge Management, (CAMP), Published by IEEE, pp.61-66, 2010.
- 9- Farshid Allahverdi, Karim Faez and Saeed Mozaffari," Resolution enhancement through ROI selection method", Asia-Pacific Conference on Computational Intelligence and Industrial Applications (PACIIA), Published by IEEE, pp. 389 392, 2009.
- 10-Ali Abedi, Karim Faez and Saeed Mozaffari, Detecting and recognizing numerical strings in Farsi document images, International Conference on Image and Vision Computing New Zealand (IVCNZ), Published by IEEE, pp. 403-408, 2009.
- 11-Jamal Saeedi, Reza Safabakhs and Saeed Mozaffari, Document image segmentation using fuzzy classifier and the dual-tree DWT, International CSI Computer Conference (CSICC), Published by IEEE, pp. 385-391, 2009.
- 12-Jamal Saeedi, Karim Faez, Saeed Mozaffari, "Multi-focus Image Fusion Based on Fuzzy and Wavelet Transform". Iberoamerican Congress on Pattern Recognition (CIARP), Published by IEEE, pp.970-977,2009.
- 13-Saeed Mozaffari, Hadi Soltanizadeh, "ICDAR 2009 Handwritten Farsi/Arabic Character Recognition Competition", IEEE International Conference on Document Analysis and Recognition (ICDAR), pp. 1413-1417, 2009.
- 14-Saeed Mozaffari, Karim Faez, Volker Märgner, Haikal El Abed, "Strategies for Large Handwritten Farsi/Arabic Lexicon Reduction". IEEE International Conference on Document Analysis and Recognition (ICDAR), pp. 98-102, 2007.
- 15-Saeed Mozaffari, Karim Faez, Farhad Faradji, Majid Ziaratban and S.Mohamad Golzan "A Comprehensive Isolated Farsi/Arabic Character Database for Handwritten OCR Research" International Workshop on Frontiers in Handwriting Recognition (**IWFHR**), 2006.
- 16-Saeed Mozaffari, Karim Faez and Farhad Faradji "One Dimensional Fractal Coder for Online Signature Recognition" 18th IEEE International Conference on Pattern Recognition (ICPR), pp. 857 860, 2006.
- 17-Saeed Mozaffari, Karim Faez and Farhad Faraji, "Graylevel texture classification using Fractal theory", Iranian Conference on Electrical Engineering (ICEE), 2006.
- 18-Saeed Mozaffari, Karim Faez and Majid Ziaratban," Character Representation and Recognition Using Quadtree-based Fractal Encoding

- Scheme" **IEEE** International Conference on Document Analysis and Recognition (**ICDAR**),pp.819-823, 2005.
- 19-Saeed Mozaffari, Karim Faez and Majid Ziaratban," Structural Decomposition and Statistical Description of Farsi/Arabic Handwritten Numeric Characters", IEEE International Conference on Document Analysis and Recognition (ICDAR), pp.237-241, 2005.
- 20-Saeed Mozaffari, Karim Faez and Majid Ziyaratban," A Hybrid Structural /Statistical Classifier for Handwritten Farsi/Arabic Numeral Recognition", IAPR Conference on Machine Vision Applications (MVA), pp.218-221, 2005.
- 21-Hamidreza Rashidy Kanan, Karim Faez, Saeed Mozaffari and Mehdi Ezoji, "Face Localization Using Shape Information and Genetic Algorithms", First International Conference on Modeling, Simulation and Applied Optimization (ICMSAO), 2005.
- 22-Hamidreza Rashidy Kanan, Karim Faez and Saeed Mozaffari,"Wave Height Prediction Using Cascade Correlation Neural Network", 2nd IEEE GCC 2004 Conference, pp377-380, 2004.
- 23- Saeed Mozaffari, Karim Faez and Hamidreza Rashidy Kanan. "Feature Comparison between Fractal Codes and Wavelet Transform in Handwritten Alphanumeric Recognition Using SVM Classifier", 17th IEEE International Conference on Pattern Recognition (ICPR), Volume 2, pp.331-334, 2004.
- 24-Saeed Mozaffari, Karim Faez and Hamidreza Rashidy Kanan. "Recognition of Isolated Handwritten Farsi/Arabic Alphanumeric Using Fractal Codes", **IEEE** Proceeding of Southwest Symposium on Image Analysis and Interpretation (SSIAI), pp. 104-108, 2004.

And more than 20 other conference papers.

#### **REVIEWER for JOURNALS:**

- Pattern Recognition
- Pattern Recognition Letters
- IET Image Processing
- Int. Journal of Pattern Recognition and Artificial Intelligence
- Int. Journal of Document Analysis and Recognition
- IEEE Transactions on Neural Networks

## **REFERENCES:**

Prof. K.Faez (my PhD supervisor)
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- Dr. V.Maergner (my sabbatical leave's supervisor)
  IfN, TU Braunschweig, Germany, maergner@ifn.ing.tu-bs.de
- Prof. T.Fingscheidt (my host of Post-Doc intership)
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