

MOHAMMAD-ALI NIKOUEI MAHANI



PERSONAL INFORMATION



**Senior Machine Learning Engineer,
Autonomous Driving Campus, BMW AG**

Birth: June 29th, 1986

Visiting Address: Autonomous Driving Campus, Landshuter Str. 26, 85716 Unterschleißheim, Munich.

Nationality: Iranian

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HIGHLIGHTS AND SOLID KNOWLEDGE

- Deep Learning / Machine Learning
- Pattern Recognition and Machine vision
- Robotics
- Cognitive Science
- Embedded systems

EDUCATION

2010 – 2017	Ph.D. in Cognitive Science University of Tübingen, Germany Supervisor: <i>Prof. Rolf Ulrich</i>
2008– 2010	Ph.D. in Robotics and Machine Learning (Computer Science) University of Tehran Thesis Degree: Excellent Supervisors: <i>Prof. Majid Nili Ahmadabadi</i>
2005 –2008	M.Sc. in Artificial Intelligence (Computer Science) Department of Electrical and Computer Engineering, Shiraz University
2001 –2005	B.Sc. in Computer Engineering Department of Electrical and Computer Engineering, Shahid Bahonar University of Kerman
	Exceptional Talents High School (NODET) Mathematics & Physics

WORK EXPERIENCES

Senior Machine Learning Engineer., Autonomous Driving Campus, BMW AG.

Programmer and project manager at image processing and AI Dept., The Center of Advanced Systems and Technologies (CAST).

Manager of R&D at Robotics and AI Dept., Sepanta Company, joint with SRRF Company.

Project manager at Intelligent Transportation Systems (ITS) Dept., Taradod Rahnama company.

Research scientist, School of Cognitive Sciences at Institute for Research in Fundamental sciences (IPM).

Research scientist, Cognitive robotics lab, University of Tehran

Head of executive committee of 1st Robotics Contest, Sharif University of Technology.

Research assistant, Signal Processing Center of the Shiraz University

AWARDS AND HONORS

- Member of National Institute of the Elite (NIE)
 - First Rank in the 4th Kharazmi Festival (most prestigious scientific festival in Iran)
 - First rank in Kid-Size humanoid league of the 2nd International IranOprn Robocup competitions
 - International Robocup qualification and participations (from 2004 to 2008)
 - Awarded research grant of Cognitive Sciences and Technologies Council for Joint program study
 - Best Researcher of the Kerman Province
 - Accepted for Bachelor degree without entrance exam (Talent Student), Shahid Bahonar University
 - Accepted for Master degree without entrance exam (Talent Student), Shiraz University
 - Accepted for PhD degree without entrance exam, (Talent Student), University of Tehran
 - Awarded research grant of Iranian research institute for M.Sc. Thesis.
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SKILLS

Programming Languages:

- **Solid: C++/C, Python, MATLAB**
- **Experience:** C#, Java, Pascal (Delphi), MySQL, HTML, PHP, assembly, basic

Packages and Libraries: TensorFlow, OpenCV (GPU/CPU), OpenMP, QT, SLAB3d, PCL (Point Cloud Library), ROS, Weka, OpenFrameWorks, CUDA, Webots, NAO, Bioloid, Kinect, CMUCAM, and many others.

Hardware:

- **Microcontrollers:** ARM (ST, LPC), AVR xmega/mega, PIC, beagle board, Radxa, ...
- **Platform and Tools:** Keil, Xenomi RT Patch, Codevision, AVRGCC, BASCOM, Proteus, Altium Designer.

Operating Systems: Linux, Windows

ROBOCUPS

- International IranOpen 2011 Robotic math, UAV league, in Iran.
 - International Robocup 2008 match, humanoid league, in china with Shiraz University (Pasargad Team).
 - International IranOpen 2008 Robotic match, humanoid league, in Iran.
 - International Robocop 2007 match, humanoid league, in America.
 - International IranOpen 2007 Robotic match, humanoid league, in Iran.
 - International Robocop 2006 match, humanoid league, in Germany.
 - International Robocop 2005 match, humanoid league, in Japan.
 - International Robocop 2004 match, humanoid league, in Portugal
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SELECTED PROJECTS

- **3D object detection using deep learning and low level sensor fusion**
- **Wearable Artificial Sensory Device**
- **Humanoid Robot (Surena III, national humanoid robot)**

- **Vehicle counting/categorizing**
- **Stereopsis Tracking**
- **Automatic Number and Plate Recognition System**
- **Drone Robot**
- **Fish Robot**
- **Optical Character Recognition System**
- **Rain Sensor**
- **Action Perception**
- **Fuzzy Edge Detector**
- **Portable ECG/EKG (on mobile and standalone)**

PUBLICATIONS

- (1) Mohammad-Ali Nikouei Mahani, "How DNNs can Imitate Humans' Bayesian Integration", under preparation for submission to NIPS.
- (2) Mohammad-Ali Nikouei Mahani, "Improving Object Detection Robustness using Inference-Time Dropout", under preparation.
- (3) Mohammad-Ali Nikouei Mahani, Saber Sheybani, Karin Bausenhardt, Rolf Ulrich, Majid Nili Ahmadabadi, "Multisensory Perception of Contradictory Information in an Environment of Varying Reliability: Evidence for Conscious Perception and Optimal Causal Inference", Nature SREP, 2017.
- (4) Nikouei Mahani MA, Haghgoo HA, Azizi S, Nili Ahmadabadi M (2016) Attention Cueing and Activity Equally Reduce False Alarm Rate in Visual-Auditory Associative Learning through Improving Memory. PLoS ONE 11(6): e0157680. doi: 10.1371/journal.pone.0157680.
- (5) M. A. Nikouei Mahani, S. Jafari, R. Rahmatkhah, "A Novel Approach for Humanoid Push Recovery Using Stereopsis" Journal of Robotica 2014, FirstView Article.
- (6) M.A. Nikouei Mahani, S. jafari, R. Rahmatkhah, "Novel Humanoid Push Recovery Using Knee Joint", Humanoids 2011, IEEE-RAS conference, 2011.
- (7) Mohammad-Ali Nikouei Mahani, Karin Bausenhardt, Majid Nili Ahmadabadi , Rolf Ulrich, "Multimodal Simon Effect: A Multimodal Extension of the Diffusion Model for Conflict Tasks ", Frontiers in Human Neuroscience, under review.
- (8) Mohammad-Ali Nikouei Mahani, Saber Sheybani, Karin Bausenhardt, Rolf Ulrich, Majid Nili Ahmadabadi, "Learning How to Optimally Integrate an Artificial Sensory Device", under preparation.
- (9) Mohammadali Nikouei Mahani, Saber Sheybani, Karin Bausenhardt, Rolf Ulrich, Majid Nili Ahmadabadi, "Analysis of ERP components in the multisensory perception task across different reliability conditions", PRNI 2016.
- (10) Mohammad-Ali Nikouei Mahani, Saber Sheybani, Karin Bausenhardt, Rolf Ulrich, Majid Nili Ahmadabadi, "Visual-Tactile Calibration Conforms Tactile Dominant Adaption", TEAP 2016.
- (11) Mohammad-Ali Nikouei Mahani, Hojjat Allah Haghgoo, Solmaz Azizi, Majid Nili, "Activity and Cueing Can be Used Interchangeably in Multisensory Association Learning", 6th International Conference of Cognitive Science, 2015
- (12) M. A. Nikouei Mahani, S. Jafari, R. Rahmatkhah, "A Novel Approach for Humanoid Push Recovery Using Stereopsis" Journal of Robotica 2014, FirstView Article.
- (13) M.A. Nikouei Mahani, M. Koochi-Moghadam, H. Nezamabadi-pour, "A Fuzzy Difference Based Edge Detector", Iranian Journal of Fuzzy Systems Vol. 9, No. 6, (2012).
- (14) M. H. Setayesh, M. Kazemnezhad, M. A. Nikouei Mahani, Sima Azadi," The effectiveness of Fuzzy-Rough Set Feature Selection in the Prediction of Financial Distress: A Case of Iranian Context", Wulfeina Journal, 2012.
- (15) N. Mozaffari, M.A. Nikouei Mahani, S. hashemi, "A New Method for Clustering in Unsupervised Distributed Environments using Fuzzy Roughset Theory", 4th Congress on Intelligent and fuzzy systems, 2010, Iran.

- (16) N. Mozaffari, M.A. Nikouei Mahani, S. Hashemi, "A Framework for Distributed Clustering with Ability to Detect and Remove Outliers Using Fuzzy Rough Set Theory", 15th Conference of Iranian Computer Society (CSICC 2010).
- (17) Gh. Dastghaibyfar, M.A. Nikouei Mahani, S.Niktab Etaati, "Adaptive Multi-channel Steganography in bitmap images", International Review on Computers and Software, Print ISSN: 1828-6003, 2008.
- (18) Shahram Jafari, Mohammad-Ali Nikouei Mahani and Mahdi Sharifi "Comparison between Different Learning Rates in a Car Safety Controller", IEEE ICCA 2007, Guangzhou, China, May 2007.
- (19) Nezamabadi-pour, H., Iranmanesh, M., Alavi, M., Mahani, M. N., Ataee, S. R., Rezaei, H. H., ... & Hosseini, P. (2005), "Persia B Team Description 2005 Robocup", The International Symposium and Competitions on Robocup, Osaka Japan.

LANGUAGE SKILLS

English: Fluent
Persian/Farsi: Maternal
German: Intermediate

PATENTS

M. Sharifi, **M.A. Nikouei Mahani**, M. Arabnezhad, S. jafari, "Adaptive Vehicle Safety System", patent No. 43209, Iran Patents.

REFERENCES

Available on request.