

RAHIL MAHDIAN

+98 921-235-7747

mahdian.t.r@gmail.com

mahdian@iribu.ac.com

Updated: 2024/02/02

EDUCATION

PhD of Mechatronics (Artificial Intelligence) <i>Machine Learning for Signal Processing</i>	2011 – 2016
Saarland University-UdS, LSV Lab, Supervisor: Prof. Dietrich Klakow	Saarbruecken, Germany
Master of Digital Electronics <i>Sparse Signal Processing</i>	2005 – 2007
Sharif University of Technology, Supervisor: Prof. BabaieZadeh, Advisor: Prof. C. Jutten	Tehran, Iran
Bachelor of Electronics	1993 – 1997
Amirkabir University of Technology-Tehran Polytechnique	Tehran, Iran

INDUSTRIAL WORK EXPERIENCES

Laboratory Assistant/Researcher	1998 – 2000
SAMA SAIRAN	Tehran, Iran
Worked in DSP group as TMS320C5x, TMS320C54x HW /SW system design and developer for GSM audio compression	
Laboratory Assistant/Researcher	2000 – 2002
SAMA-SAIRAN Satellite Industry	Tehran, Iran
- Design and developing of telecommunication payload systems for LEO satellites - DSP processor tutoring	
Team Leader and Chief Designer	2002 – 2008
LEO satellite on-board computer and telecom. payload designer - SINA-1 and OMID satellites	Tehran, Iran
- Leading a team of 12+ employees - TMS320C6x DSP processor tutoring	
Academic Researcher/Team Leader	2008 – 2010
Jahad Daneshgahi Khajeh Nasir-ACECR	Tehran, Iran
- Chief designer of the Helicopter Landing Assistant system - Chief designer of the smart gates - Tutoring DSP-Lab for KNTU University	
PhD Researcher Secondment	2010 – 2011
Nuance <i>Communication Company</i>	Ulm, Germany
Research and developing of microphone Array processing systems for <i>Mercedes</i> and <i>BMW</i> in-car communication systems	
PhD Researcher Internship	2013 – 2014
DFKI-German Research Center for Artificial Intelligence	Saarbruecken, Germany
- Research and developing of intelligent systems for automatic power trajectory extraction of buildings using machine learning methods-NIALM project cooperated with <i>Yetu corporation</i> - Research and developing of Automatic Speech Recognition (ASR) system front-end for distant speech separation and recognition	

ACADEMIC EXPERIENCES

Assistant Professor | *Faculty of Technology and Media Engineering* 2017–present
IRIBU University Tehran, Iran

- Teaching Master and Bachelor courses, such as:
 - * **Pattern Recognition & Machine Learning**
 - * **Deep Learning**
 - * **Deep Neural Networks**
 - * **Advanced Digital Signal Processing**
 - * **Digital Signal Processing**
 - * **Signals and Systems**
 - * **Research Methods**
- Founder of **Artificial Intelligence-LAB** and **AI Meets Seminars**| *IRIBU*
- Workshops on Applications of **Machine/Deep Learning on Media Technology**| *IRIBU*
- **Invited Faculty of Cognitive Science department-IRIBU** and **Cognitive Science Institute**
- **Invited Lecturer of Modern Media & Cognitive Science Workshop** cooperated with **Sharif University of Technology**
- **Technical Program Committee & Lecturer** of IMTEC Conference, Tehran, Iran
- **Reviewer** of Iranian Journal of Electrical and Computer Engineering (**IJECE**)

Lecturer of Robotics Lab | *Faculties of Mechatronics and Computer Science* 2014
Saarland University Saarbruecken, Germany

Lecturer of DSP Course | *Faculties of Mechatronics and Computer Science* 2015,2016
Saarland University Saarbruecken, Germany

- Video play-lists on youtube:
 - * <https://www.youtube.com/playlist?list=PLd1KdhVQA-E2IyVGJ2A2dAQ1ncL6anwIL>
 - * https://www.youtube.com/playlist?list=PLd1KdhVQA-E2T7X_eonQ-hkQSchqz-zN0

CRASH COURSES, TUTORIALS & TRAINING PERIODS PARTICIPATION

Blind Source Separation 2008
Sharif University of Technology, Tehran Prof. Christian Jutten, Iran

Machine Learning for ASR systems|*FP7 SCALE-Marie Curie Training Project* 2011
RWTH Aachen University Aachen, Germany

Speech Synthesis and Machine Learning|*FP7 SCALE-Marie Curie Training Project* 2011
Computer Science Department, University of Edinburgh Edinburgh, UK

Sparsity and Compressive Sensing 2011
Royal Colledge of Edinburgh Edinburgh, UK

ICASSP 2011 Tutorial Series 2011
Prague ICASSP venue Czech Republic

- **Random Matrix Theory and Applications**
- **Kernel Adaptive Filtering**
- **Compressive Sensing for Signal Processing**
- **Random Finite Set Theory-KF, EKF, UKF, PF, PHD filters**

Machine Learning for Signal Processing|*FP7 SCALE-Marie Curie Training Project* 2012
University of Radboud Nijmegen, Netherland

Topic Models and Modern Machine Learning 2012
Max Planck institute-MPI, Saarbruecken Prof. Alex Smola, Germany

ISCA 2012 Tutorial Series 2012
Portland Hilton Hotel Oregon, USA

- **From Stationary to Adaptive Sinusoidal Modeling of Speech**
- **Uncertainty Handling for Environment-Robust Speech Recognition**
- **Microphone Array Signal Processing**

- **Topic Models for Acoustic Processing of Speech**

Modern Speech Recognition using Machine Learning <i>FP7 SCALE-Marie Curie Training Project</i>	2012
Sheffield University	Sheffield, UK
Deep Learning Methods for ASR Systems	2013
Saarland University, Saarbruecken	Prof. A. Weibel, Germany
Gaussian Process Machine Learning	2013
Max Planck institute-MPI-INF, Saarland University	Saarbruecken, Germany
Google Speech Summit	2016
Google Company	London, UK

COLLOQUIUM & INVITED TALKS, WORKSHOP AND SEMINAR PRESENTATIONS

Oral Presentations at SCALE Winter school	2011
RWTH Aachen University	Aachen, Germany
Oral Presentations at SCALE Summer school	2011
University of Edinburgh	Edinburgh, UK
Oral Presentations at SCALE Winter school	2012
University of Radboud	Nijmegen, Netherland
Oral Presentations at SCALE Summer school	2012
University of Sheffield	Sheffield, UK
LSV Colloquium Talk Series	2013
Saarland University	Saarbruecken, Germany
AcListant Project demonstartion	2014
Erlangen-Nuremberg University	Erlangen, Germany
NIALM Project Demonstration	2015
DFKI- German Research Center for Artificial Intelligence	Saarbruecken, Germany
Independent Component Analysis Seminar	2017
SRBIAU University	Tehran, Iran
Stochastic Filtering (KF, EKF, UKF, PF) Seminar	2017
SRBIAU University	Tehran, Iran
Machine Learning Methods for Media Technology	2018
Crash Course, IRIB	Tehran, Iran
Deep Learning for Media Technology - Meets Workshops	2018
IRIBU University	Tehran, Iran
Artificial Intelligence Horizon in Media	2021
Sharif University of Technology & IRIBU, Media Workshop	Tehran, Iran

HONORS AND AWARDS

Outstanding University Researcher	2023
IRIBU University, Faculty of Technology and Media Engineering	Tehran, Iran
FaceCup 2rd Rank	2022
FaceCup student challenge for face recognition	Tehran, Iran
Outstanding University Professor	2022
IRIBU University, Faculty of Technology and Media Engineering	Tehran, Iran
FaceCup 3rd Rank	2021
FaceCup student challenge for face recognition	Tehran, Iran

Best Paper Award	2020
Mediterranean Conference on Pattern Recognition and Artificial Intelligence-MedPRAI	Hammamet, Tunisia
Best Paper Award	2020
17 th Iranian Conference on Intelligent Systems-CFIS	Mashhad, Iran
Best Paper Award	2020
International Symposium of Telecommunication-IST	Tehran, Iran
Best Paper Award	2019
Mediterranean Conference on Pattern Recognition and Artificial Intelligence-MedPRAI	Istanbul, Turkey
Best Paper Award	2019
International Conference on Signal Processing and Intelligent Systems-ICSPIS	Shahrud, Iran
Best Paper Award	2008
International Symposium of Telecommunication-IST	Tehran, Iran
Research Scholarship	2015
DAAD International Office, German research funding	Saarbruecken, Germany
PhD Fellowship, SCALE (Speech Communication with Adaptive LEarning) Project	2010-2013
Marie-Curie international training network-FP7	Saarbruecken, Germany
Outstanding University Professor	2019
IRIBU University, Faculty of Technology and Media Engineering	Tehran, Iran
OMID Satellite Gratitude Disk from President	2008
SAIRAN, Space Industries Group, Chief Designer of Satellite On-Board Computer	Tehran, Iran
SINA-1 Satellite Gratitude Disk from Minister of Defense	2004
SAMA-SAIRAN, Satellite Industries Group, Chief Designer of Satellite Telecomm. Payload	Tehran, Iran
Provincial Nominee for national Mathematics and Physics Olympiad competition	1992,1993
	Tehran, Iran

SKILLS

Languages: Persian (Native), English (Fluent), German (B1), Turkish(B2), Arabic (B1), Russian (A1)
Programming: Python, MATLAB/Simulink, C/C++, Assembly, Javascript, Verilog
Hardware: TMS320C6x/C5x/C54x, AVR, Intel, PIC
Document Creation: Microsoft Office Suite, LaTeX

RESEARCH INTERESTS

Artificial Intelligence: Machine Learning, Deep Neural Networks, Reinforcement Learning, Causality, Computer Vision, Robotics, SLAM
Signal Processing: Speech Processing, Recognition & Enhancement, BSS, Image Processing, Array Processing, Speaker Tracking, Video processing
NLP: Text Processing, QA systems, Dialog Systems, Speech Translation
Mathematics: Estimation Theory, Optimization, Stochastic & Adaptive Filtering, etc.

RESEARCH PUBLICATIONS

Google Scholar Citation: <https://scholar.google.com/citations?user=h28u9LUAAAAJ&hl=en>

REFERENCES

- [1] **Prof. Dietrich Klakow**, Spoken Language Systems (LSV), Saarland University, Germany, **Phone:** +49 (681) 302 58 122
- [2] **Dr. Markus Buck**, Manager Research Engineer of Acoustic Speech Enhancement, Nuance Communication Site Ulm, Germany, **Phone:** +49 731 37950 1175
- [3] **Prof. Massoud BabaieZadeh**, Sharif University of Technology, Tehran, Iran, **Phone:** +98 (21) 6616 5925