Mina Jamshidi Idaji

Curriculum Vitae

Personal Information

Born on   1991
Resident in   Germany (research residence permit)
Website   minajamshidi.github.io
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Research Interests

Signal/Image Processing (with biomedical and neuroscience applications), Network Science, Machine Learning, Brain-Computer Interface, and Applied Mathematics in signal processing (Statistical Methods, Optimization Theory, Multilinear Algebra, and Graph Theory)

Research Experience and Academic Services

12/2017-present	**Doctoral Researcher**, MPI for Human Cognitive and Brain Sciences
02/2017–06/2017	**Research Assistant**, Biomedical Signal and Image Processing Laboratory (BiSIPL), under Supervision of Dr. S. Hajipour and Prof. M.B. Shamsollahi
	→ Research area: Source localization and denoising of epileptic EEG data with a graphic user interface (GUI).
09/2014–08/2016	**Research Assistant**, Biomedical Signal and Image Processing Laboratory (BiSIPL), EE Dept., Sharif University of Technology, Tehran, Iran
	→ Research area: *Higher order* and *vector-based* Event Related Potential (ERP) analysis, higher order feature reduction techniques; unsupervised P300 speller
Summer 2013	**Research Intern**, Medical Image and Signal Processing Research Center (MISP), Isfahan University of Medical Sciences, Isfahan, Iran
	→ Research area: Optic Disc segmentation in retinal images.
Ad-hoc Reviewer	IEEE Transactions on Biomedical Engineering (TBME), IEEE Transactions on Neural Systems and Rehabilitation Engineering (TNSRE)

Education

12/2017–present	**PhD**, Max Planck Institute for Human Cognitive and Brain Science, Leipzig, Germany, Dr. Vadim Nikulin, Prof. Dr. Arno Villringer
	Machine Learning Group, Technical University Berlin, Berlin, Germany, Prof. Dr. Klaus-Robert Müller
PhD Thesis	Multivariate Methods for Quantification of Nonlinear Interactions in Human Brain
09/2014–08/2016	**M.Sc., Biomedical Engineering (Bioelectric)**, EE Dept., Sharif University of Technology (SUT), Tehran, Iran

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	M.Sc. GPA: **18.65/20** (29 credits), mean University GPA:16.2/20, Dept. GPA: 16.35/20 in class of 2016
Master Thesis	Detection of Event Related Potential Using Tensor Decomposition (can be accessed in Persian here)
M.Sc. Supervisor	Prof. Dr. M.B. Shamsollahi
09/2009–09/2014	**Dual B.Sc., Electrical Engineering and Mathematics**, Isfahan University of Technology (IUT), Isfahan, Iran
Bachelor Thesis	A Survey of Graph-based Image Segmentation Methods
B.Sc. Supervisor	Prof. Dr. Saeid Sadri and Dr. Raheleh Kafieh
	B.Sc. GPA: **18.55/20** (185 credits), mean University GPA:14.54/20, ECE Dept. GPA: 15.26/20, EE students GPA:16.32/20 in class of 2014
09/2005–08/2009	**High school diploma**, Farzanegan High school (NODET), Isfahan, Iran

Technical Skills

→ Proficiency: (A) Proficient, (B) Good (C) familiar/limited experience

Programming	Python (A/B), MATLAB (A), C/C++ (C/B), JAVA (C)
Python Package	Scipy/Numpy (A), Scikit-Learn (B), Pandas (C), Multiprocessing, Joblib
IDE	PyCharm (A), Jupyter Notebook (A), Spyder (C), Atom (C), IntelliJ (C)
Type Setting	LaTeX(A), Keynote (A), Microsoft Office (B/A)
O.S.	OSX, Linux, Windows
Graphics	Adobe Illustrator, Inkscape
Concepts	Signal Processing (A), Network Science (B/A), Classical Machine Learning (A), Statistics (C/B), Image Processing (B/C), Object-oriented Programming (B/C), Data Structures and Algorithms (B)
Neuroimaging	MEG/EEG (A/B)
Other tools	Git (B/A)

Selected Publications

- **M. Jamshidi Idaji**, K.R. Müller, G. Nolte, B. Maess, A. Villringer, V.V. Nikulin, "Nonlinear Interaction Decomposition (NID): A Method for Separation of Cross-frequency Coupled Sources in Human Brain," NeuroImage , 2020. DOI: j.neuroimage.2020.116599
- **M. Jamshidi Idaji**, M.B. Shamsollahi, S. Hajipour Sardoui, "Higher Order Spectral Regression Discriminant Analysis (HOSRDA): A Tensor Feature Reduction Method for ERP Detection," Pattern Recognition 70 (2017) 152-162. DOI: 10.1016/j.patcog.2017.05.004

Teaching Experience

→ Responsibilities: (A) Designing problems - (B) Holding problem solving sessions/Office hours - (C) Preparing tutorials and hands-on sessions (Cm:MATLAB, Cp:Python) - (D) Grading homeworks and projects

July 2020	**Tutor**, Max Planck School of Cognition, MEEG preprocessing (A, B, Cp)
June 2020	**Tutor**, Neuromatch Academy, Computational Neuroscience

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2015–2016 **Teaching Assistant** at Sharif University of Technology, EE Dept.

- Tensor Decomposition and Matrix Factorization with Application to Signal Processing - Instructed by: Dr. S. Hajipour, Fall2016 (A, D)

- Digital Signal Processing - Instructed by: Prof. Dr. M.B. Shamsollahi, Fall2015 & Fall2016 (Cm)

2012–2014 **Teaching Assistant** at Isfahan University of Technology, ECE Dept.

- Wireless Communication - Instructed by: Dr. M.J. Omidi, Fall2013 & Spr2014 (B, D)
- Communication Circuits - Instructed by: Prof. Dr. S. Sadri, Fall 2013 (B)
- Signals and Systems - Instructed by: Dr. B. Nazari, Fall 2012 (B, Cm, D)

Languages

English	Full Proficiency
German	B2/C1
Persian	Native

Research Funding and Fellowships

12/2017-12/2020 IMPRS NeuroCom funding for persueing the PhD at MPI CBS

$\rightarrow$ Every year only 3-4 candidates (<1% of applicatns) can receive this funding through the application and interview procedure.

09/2015-09/2016 Mowafaghian Research Fellowship for Graduate Students, Djavad Mowafaghian Research Center of Intelligent Neuro-Rehabilitation Technologies, Sharif University of Technology (SUT), Tehran, Iran (founded by Mowafaghian Foundation, Vancouver, Canada)

$\rightarrow$ This 1-year scholarship (including the living and research expenses) is yearly awarded to only five distinguished graduate students at SUT.

Honors and Awards

08/2014 Honorary admission to master's program at Sharif University of Technology (SUT) as an Exceptional Talent (without need to take part in nationwide entrance exam)

$\rightarrow$ The honorary admission of graduate level programs is awarded each year to a very limited number of students with distinguished academic performance.

Class of 2013 Ranked 6th among 100 EE undergraduate students and 3rd in communication engineering group, Isfahan University of Technology, Isfahan, Iran

08/2012 DAAD Scholarship for one month German summer course in Germany, Berlin

Membership

12/2020- present	Mentor at Max Planck School of Cognition
12/2017–present	International Max Planck Research School NeuoroCom (IMPRS NeuoroCom)
2021-Present	IEEE Member
2010-2020	IEEE Student Member

Volunteer Activity

2009-2017 Volunteer Activist, Kherad-Sepahan NGO (Projects of reading promoting and providing high-quality education to pupils in poor regions of Iran). "Read with Me" is a globally recognized project where our NGO is a close partner.

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Referees

Dr. Vadim Nikulin (nikulin@cbs.og.de)

Further referees can be provided upon request.

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