

Mina Jamshidi Idaji

Curriculum Vitae

✉ jamshidi@cbs.mpg.de
✉ minajamshidi.github.io

Research Interests

Signal/Image Processing (biomedical and Neuroscience), Brain Data, Network Science, Brain Network, Machine Learning, Brain-Computer Interface

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 (BiSIP), 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 (BiSIP), 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
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), R (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	L ^A T _E X, Keynote, Microsoft Office
O.S.	OSX, Linux, Windows
Graphics	Adobe Illustrator, Inkscape
Concepts	Signal Processing (A), Network Science (B/A), Classical Machine Learning (A), Statistics (C/B), (multi-)linear algebra, Classical image Processing (B/C), Object-oriented Programming (B/C), Data Structures and Algorithms (B)
Neuroimaging	Electrophysiology (EEG/MEG/ECoG) (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

→ Please check [here](#) for responsibilities and details.

July 2020	Tutor , Max Planck School of Cognition, MEEG preprocessing
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- June 2020 **Tutor**, Neuromatch Academy, Computational Neuroscience
2015–2016 **Teaching Assistant** at Sharif University of Technology, EE Dept.
2012–2014 **Teaching Assistant** at Isfahan University of Technology, ECE Dept.

Languages

- English Full Proficiency
German B2/C1
Persian Native

Research Funding and Fellowships

- 12/2017-12/2020 **IMPRS NeuroCom** funding for pursuing the PhD at MPI CBS
→ Every year only 3-4 candidates (<1% of applicants) 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)
→ This 1-year scholarship (including the living and research expenses) is yearly awarded to only five distinguished graduate (master and PhD) students at SUT after application and interview procedure.

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)
→ 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 teacher, 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.

Referees

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

Further referees can be provided upon request.

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