

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 (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
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^AT_EX, 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

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 persueing the PhD at MPI CBS
→ 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)
→ 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.

Last Update: June 1, 2021