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INFORMATION	Homepage:	https://ghayem.github.io

Ph.D. in Signal, Image, Parole, and Télécoms, [GIPSA-lab](#), Oct 2017 – Nov 2020

- Thesis topic: *Optimal sensor placement for source extraction*
- Advisor: [Prof. Christian JUTTEN](#), [Dr. Bertrand RIVET](#)

M.Sc., **Electrical Engineering**, Sept 2013 – Sept 2015 GPA: 17.06/20
 - Thesis topic: *MR image reconstruction from highly partial Fourier samples*
 - Advisor: **Prof. Farokh Marvasti**

B.Sc., Electrical Engineering, Sept 2009 – Sept 2013 GPA: 17.85/20

Diploma, Mathematics and Physics, Sept 2005 – Sept 2009 GPA: 19.60/20

RESEARCH
EXPERIENCES

- **Postdoctoral researcher** (August 2021–August 2022), [MLSP-Lab](#), University of Maryland, Baltimore County (UMBC), Maryland, USA.
 - Advisor: [Prof. Tulay Adali](#)
 - Research topic:
 - Dictionary learning for the identification of new interpretable patterns and discriminative features from brain functional network connectivity (FNC) obtained from ICA decomposition of multi-subject resting state fMRI data
 - static and dynamic study
 - Interpretable brain graph neural net (Brain-GNN) for the classification of healthy control and patients with different brain disorders e.g. Schizophrenia.
 - Constrained ICA and IVA for subgroup identification from multisubject fMRI Data
 - Reproducibility and replicability in neuroimaging data analysis
- **Research assistant** (2015–2017), DSP-lab, EE department, Sharif University of Technology, Tehran, Iran.
 - Advisor: [Prof. Massoud Babaie-Zadeh](#)
 - Research topics: Dictionary learning for sparse representation, convex/non-convex optimization.

SUMMER SCHOOL PRAIRIE artificial intelligence summer school (PAISS), July 2018, Grenoble, France.

REFEREED Google Scholar profile

JOURNAL
PUBLICATIONS

1. **F. Ghayem**, B. Rivet, Ch. Jutten, R. Cabral Farias, “Robust sensor placement for signal extraction,” *IEEE Transactions on Signal Processing*, vol. 69, pp. 4513–4528, 2021.
2. **F. Ghayem**, M. Sadeghi, M. Babaie-Zadeh, S. Chatterjee, M. Skoglund, and C. Jutten, “Sparse signal recovery using iterative proximal projection,” *IEEE Transactions on Signal Processing*, vol. 66, no. 4, pp. 879–894, February 2018.

CONFERENCE
PUBLICATIONS

1. H. Yang, MABS. Akhonda, **F. Ghayem**, Q. Long, VD. Calhoun, T Adali, “Independent Vector Analysis Based Subgroup Identification from Multisubject fMRI Data,” in *International Conference on Acoustics, Speech, and Signal Processing (ICASSP)*, May 2022.
2. **F. Ghayem**, B. Rivet, Ch. Jutten, R. Cabral Farias, “Gradient-based algorithm with spatial regularization for optimal sensor placement,” in *International Conference on Acoustics, Speech, and Signal Processing (ICASSP)*, May 2020.
3. **F. Ghayem**, B. Rivet, Ch. Jutten, R. Cabral Farias, “Optimal sensor placement for signal extraction,” in *International Conference on Acoustics, Speech, and Signal Processing (ICASSP)*, May 2019.
4. M. Sadeghi, **F. Ghayem**, M. Babaie-Zadeh, S. Chatterjee, M. Skoglund, and C. Jutten, “L0Soft: L0 Minimization via Soft Thresholding,” in *Proceedings of the 27th European Signal Processing Conference (EUSIPCO)*, 2-6 September 2019.
5. **F. Ghayem**, M. Sadeghi, M. Babaie-Zadeh, and C. Jutten, “Accelerated dictionary learning for sparse signal representation,” in *13th International Conference on Latent Variable Analysis and Signal Separation, LVA/ICA*, Grenoble, France, 2017.
6. **F. Ghayem** and F. Rassaie, “Helical antenna to measure radiated power density around a BTS; Design and implementation,” in *third Asia-Pacific Conference on Antennas and Propagation (APCAP)*, July 2014.

TEACHING ASSISTANTSHIP	Signals and Systems	2015
	- Responsible: Prof. M. Babaei-Zadeh, Sharif University of Technology	
	Digital Signal Proccessing II	2014
	- Responsible: Prof. F. Marvasti, Sharif University of Technology	
	Signals and Systems	2013
	- Responsible: Dr. M. Derakhtian, Shiraz University	
	Electromagnetics	2012
	-Responsible: Dr. M. Derakhtian, Shiraz University	
	Electrical Circuit I	2011
	-Responsible: Prof. M. A. Masnadi-Shirazi, Shiraz University	

HONORS & AWARDS	- Ph.D. scholarship (ranked 2), Université Grenoble Alpes, Grenoble, France.	2017
	- Full travel grant (CHESS project), LVA/ICA workshop, Grenoble, France.	2017
	- Bronze award in math competition among high school students,	2008
	Sharif University of Technology.	
	- Admitted to National Organization for Development of Exceptional Talents (NODET) as high school and pre-university school student.	2005

COMPUTER SKILLS	<ul style="list-style-type: none"> • <i>Programming Languages and Softwares:</i> MATLAB, Python • <i>Typesetting:</i> L^AT_EX • <i>Toolbox:</i> GIFT 	
COMMUNITY SERVICES	Reviewer for the following journals and conferences:	
	- IEEE Transactions on Signal Processing	2019–2022
	- IEEE Signal Processing Letters	2019
	- European Signal Processing Conference (EUSIPCO)	2019–2021
	- eNeuro	2022
	- Machines	2022
LANGUAGE PROFICIENCY	<ul style="list-style-type: none"> - Persian (Native) - English (Fluent) - French (Intermediate) 	
HOBBIES AND INTERESTS	Playing the violin Running, hiking, biking	
REFERENCES	<ul style="list-style-type: none"> • Prof. Ch. Jutten christian.jutten@gipsa-lab.grenoble-inp.fr • Dr. B. Rivet bertrand.rivet@gipsa-lab.grenoble-inp.fr • Prof. M. Babaie-Zadeh mbzadeh@sharif.edu • Prof. T. Adali Adali@umbc.edu 	