Aynaz ADL ZARRABI[1]

I am a third-year PhD student in Computer science and Cognitive Neuroscience at Femto-ST (CNRS/Université Marie et Louis Pasteur, France), with expertise in Computational modeling and Psychophysics. My academic background includes a Master's in applied mathematics and computer science from Université Toulouse II Jean Jaurès.
My research is dedicated to understanding the latent dynamics of sensory decision-making in post-stroke patients. Leveraging data-driven approaches, I aim to uncover the cognitive and behavioral mechanisms underlying impairments in sensory processing. *I am expected to defend my PhD thesis in Spring 2025.*

EDUCATION

PhD in Computer Science *2022-Present*

Femto-ST (CNRS), Université Marie et Louis Pasteur (France)

Data-driven methods for the diagnosis and prognosis of prosody perception deficits after a stroke;
supervised by Jean-Julien Aucouturier (PhD) (Laboratoire Femto-st, CNRS) & Marie Villain (PhD) (ICM, Sorbonne university)

Postgraduate education in Advanced Modeling of behavior *2024*

BAMB, EMBO Practical course, Centre de Recerca Matematica (Spain)

Postgraduate education in Neuroanatomy *2023*

Neurocourses, King's College University of London (UK)

Postgraduate education in Hearing: from mechanisms to restoration technologies *2022*

Institut Pasteur- Institut d'audition (France)

MSc in Computer Science, Statistics and Applied Mathematics *2019-2021*

Université Toulouse II Jean Jaurès (France)

BSc in Applied Statistics *2014-2018*

University of Science and Culture (Tehran, Iran)

RESEARCH APPOINTMENTS

Research Assistant *2020-2021*

Archean Labs,Université Toulouse II Jean Jaurès, Montauban (France)

Analysis of Speech Perception in Presbycusis patients, supervised by Lionel Fontan (PhD)

Research Assistant *2020*

CRMBM (CNRS), Hôpital de la Timone, Marseille (France)

Tissue Segmentation from structural MRI and SPM Analysis with FSLeyes for Charcot-Marie-Tooth disease supervised by David Bendahan (PhD)

EXPERTISE

Softwares

Python, R, SPSS, FSLEYES, SQL, Linux, LaTeX, Tableau, QlikView, PowerBI

Analytical

Behavioral data modeling (Latent variable models (State-space), Bayesian, DDMs)

Language skills

French: Fluent, English: Fluent, Persian: Native, Turkish: Native

PUBLICATIONS

Aynaz Adl Zarrabi, Mélissa Jeulin, Emmanuel Ponsot, Pauline Bardet, Pauline Commère, Lionel Naccache, JJ Aucouturier & Marie Villain. Separating representational and noise components of speech prosody perception after stroke, Sci Rep 14, 15194 (2024). https://doi.org/10.1038/s41598-024-64295-y

Merchie, A., Ranty, Z., **Adl Zarrabi, A.**, Bonnet-Brilhault, F., Houy-Durand, E., Aucouturier, JJ. & Gomot, M. Intact Representation of Vocal Smile in Autism: A reverse correlation approach, PsyArXiv Preprints, 2024 https://doi.org/10.31234/osf.io/q4n7z

Célia Chauche-Lombard*, Aude Warnery*, **Aynaz Adl Zarrabi***, JJ Aucouturier, Viviane Luherne-du Boullay, Marie Villain. Exploring Prosody Recognition in Glioma Patients: A Reverse-Correlation Study, in prep

CONFERENCES

European Society for Cognitive and Affective Neuroscience, Ghent University, Ghent (Belgium) *May 2024*
Exploring Prosody Recognition in Glioma Patients: A Reverse-Correlation Study

Annual conference Journées Perception Sonore, Ircam, Paris (France) *Nov.2023*
Separating representational and noise components of speech prosody perception after stroke

Annual conference of Society of Neurobiology of Language, Marseille (France) *Oct. 2023*
Separating representational and noise components of speech prosody perception after stroke

Annual Conference Journée de Phonétique Clinique, Toulouse (France) *Jun. 2023*
Psychophysics procedure to characterise impairments of speech prosody perception after brain stroke

Department of Automatics and Robotics, Femto-st Laboratoire, Besançon (France) *Jun. 2023*
Psychophysics procedure to characterise impairments of speech prosody perception after brain stroke

Department of Automatics and Robotics, Neuro Group, Femto-st Laboratoire, Besançon (France) *Feb. 2023*
Internal noise Calculation

Department of Automatics and Robotics, Data-PHM Equipe, Femto-st Laboratoire, Besançon (France) *Feb. 2023*
Psychophysics procedure to characterise impairments of speech prosody perception after brain stroke

Annual workshop of RDI-BMB (France) *May. 2023*
Psychophysics procedure to characterise impairments of speech prosody perception after brain stroke

Fondation pour l'audition Laureate Symposium *Oct. 2022*
Psychophysics procedure to characterise impairments of speech prosody perception after brain stroke

TOOLBOX CONTRIBUTIONS

PALIN - Psychophysics parameters calculations and Simulation API where experiments and observers can be simulated and tested across different configurations *2023 - Present*

JONES - Reverse Correlation Psychophysical Experiment *2024*

TEACHING

Teaching Assitant

Sorbonne University, Paris, France *2023-2025*
UE New Methods, International Master in Neurodegenerative Diseases (iMIND)
ENSMM- SupMicrotech, Besançon, France *2022-2024*
Analysis and visualisation of KPIs, Introduction to the R language - Industrial performances

REFERENCES

Jean-Julien Aucouturier:
Directeur de recherche CNRS, FEMTO-ST Institute, aucouturier@gmail.com
Marie Villain
Maitre de conference/Orthophoniste, Sorbonne Université, ICM/APHP, marie.villain@aphp.fr
David Bendahan
Directeur de recherche CNRS, CRMBM, david.bendahan@univ-amu.fr