Nima Zargarnezhad

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Centre for Brain and Mind, Western University
London, Ontario,
Canada

Email: nzargarn@uwo.ca
ORCID: 0009-0002-8553-7538

Education

2026- **Ph.D. Neuroscience**
(+Graduate Collaborative Specialization in Machine Learning in Health and Biomedical Sciences)
University of Western Ontario, London, Ontario, Canada
Supervisors: Dr. Ingrid Johnsrude, Dr. Jörn Diedrichsen

2021-2024 **M.Sc. Neuroscience**
(+Graduate Collaborative Specialization in Music Cognition)
University of Western Ontario, London, Ontario, Canada
Supervisor: Dr. Ingrid Johnsrude
Thesis: *Validation of a virtual auditory space, and its use to investigate how pitch and spatial cues contribute to perceptual segregation of auditory streams*

2016-2021 **B.Sc. Electrical Engineering**
(Specialized in Bioelectric and Biomedical Engineering)
Sharif University of Technology, Tehran, Iran

Honors and Awards

2026 **Open Science Newcomer Award**, Western Institute for Neuroscience, Western University, London, Ontario, Canada *$500 CAD*

2026 **G. Keith Humphrey Memorial Award**, Graduate Student Donor Awards, Department of Psychology, Western University, London, Ontario, Canada *$1,200 CAD*

2026 **Program Travel Award**, Neuroscience Graduate Program summer 2026 competition, Western University, London, Ontario, Canada *$500 CAD*

2026 **Faculty of Social Science Graduate Research Awards Fund**, Faculty of Social Science, Western University, London, Ontario, Canada *$750 CAD*

2026 **Best Pitch Runner-Up**, Graduate Student Innovation Scholars (GSIS) program winter 2026 cohort, Morrissette Entrepreneurship, London, Ontario, Canada *$1,500 CAD*

2016-2021 **National Elites Foundation**, Iran (4 year membership award)

2016 **14th place** (~150,000 participants), National University Entrance exam (Konkour), Iran

Employment and Experience

Work Experience

2024-2026 **Research Technician II**, Department of Psychology (Western Centre for Brain and Mind), University of Western Ontario, London, Ontario, Canada

- Provided support and training for graduate and award-winning undergraduate students to design, administer, implement, and collect data for behavioral experiments.
- Supported fMRI data analysis for Clinical Psychology graduate students.
- Reviewed graduate students' manuscript and thesis drafts prior to submission.
- Helped writing, editing, and reviewing articles for publication in scientific journals.

2019-2021 **Undergraduate Researcher**, Sharif Brain Center, Sharif University of Technology, Tehran, Iran

2019 **Intern Engineer**, School of Cognitive Sciences, IPM (Institution for Research in Fundamental Sciences), Tehran, Iran

Teaching Experience

2026- Teaching Assistant, *PSYCHOL1003B*, Department of Psychology, University of Western Ontario

2025 Teaching Assistant, *Computational Neuroscience*, NeuroMatch Academy (international online summer intensive online program)

2025	Curriculum Developer and Workshop moderator, *Foundational Research Skills summer workshop series*, Department of Psychology, University of Western Ontario
2024	Curriculum Developer and Teacher, *Programming for Research Workshop for Undergraduate Summer Research Interns*, Department of Psychology, University of Western Ontario
2022-2023	Teaching Assistant, *PSYCHOL3801F*, *PSYCHOL2811B*, *PSYCHOL2811A*, and *PSYCHOL3139B*, Department of Psychology, University of Western Ontario
2019-2020	Teaching Assistant, *EE25749*, *EE25729*, and *EE25768*, School of Electrical Engineering, Sharif University of Technology

Research contributions

Publications

Zargarnezhad N., Mesquita B., Macpherson EA., Johnsrude IS. (2025) *Fidelity of focal sound source reproduction by higher (9th) order ambisonics and perceptual effects of reproduction errors*, Journal of the Acoustical Society of America (a Special Issue on Advances in Soundscape: Emerging Trends and Challenges in Research and Practice), 1 April 2025; 157 (4): 2802–2818. https://doi.org/10.1121/10.0036226
*Altmetric Attention Score for impact: 82. In the top 5% of all research outputs scored by Altmetric; the most read article of the Journal of the Acoustical Society of America (April-July 2025)

Preprints

Muratore, P., Moradimanesh, Z., Shaikh, R. A., **Zargarnezhad, N.**, Meek, A., & Kuzovkin, I. (2025). Biological Connectivity Patterns as a Blueprint for Efficient Neural Architectures in Reinforcement Learning (1.0). Zenodo. https://doi.org/10.5281/zenodo.15126313

Theses

Zargarnezhad N. (2024) *Validation of a virtual auditory space, and its use to investigate how pitch and spatial cues contribute to perceptual segregation of auditory streams*, University of Western Ontario (thesis for M.Sc. degree in Neuroscience and Music Cognition)

Zargarnezhad N. (2021) *Functional Connectivity of Resting State fMRI data with Causal Inference Algorithms Approach*, Sharif University of Technology (thesis for B.Sc. degree in Electrical Engineering)

Conference Abstracts Accepted as Symposia

Zargarnezhad N., Song D., Jordan T., Thalenberg Levi P. (2026) *Optimizing Your Training: What's Worth Your Time and What's Not?,* Organization for Human Brain Mapping (OHBM) annual meeting, Bordeaux, France

Conference Abstracts Presented as Posters

(indicates the presenter)*

Zargarnezhad N.*, Diedrichsen J., O'Reilly M., Khan A., Johnsrude IS. (2026) *Functional Connectivity Reliability and Individual Variability in Movie-Watching and Resting-State*, Organization for Human Brain Mapping (OHBM) annual meeting, Bordeaux, France

Zargarnezhad N.*, Chadwick C., Diedrichsen J., Johnsrude IS. (2026) *Naturalistic stimulation as a localizer for epileptogenic zone: insights from homotopic functional connectivity*, Epilepsy Research Day, London, Ontario, Canada

Zargarnezhad N.*, Chadwick C., Diedrichsen J., Johnsrude IS. (2025) *Naturalistic Stimulation Evokes Homotopic Functional Connectivity Patterns in the Auditory Cortices That Are Not Present in Resting State*, International Conference on Auditory Cortex (ICAC), Maastricht, Netherlands

Zargarnezhad N.*, Coskun E., Johnsrude IS. (2024) *The Interactions of Spatial and Pitch Cues in Auditory Scene*

Analysis, Cognitive Neuroscience Society (CNS) annual meeting, Toronto, Ontario, Canada

Zargarnezhad N., Johnsrude IS.* (2024) *The Interactions of Spatial and Pitch Cues in Auditory Scene Analysis*, Association for Research in Otolaryngology (ARO) annual midwinter meeting, Anaheim, California, USA

Zargarnezhad N., Mesquita B.*, Macpherson EA., Johnsrude IS. (2024) *Perceptual Spatial Acuity in a 9th Order Ambisonic Array*, Association for Research in Otolaryngology (ARO) annual midwinter meeting, Anaheim, California, USA

Zargarnezhad N.*, O'Reilly M., Tafakkor A., Khan A., Johnsrude IS. (2023) *Individual Variability in Functional Connectivity is Lower During Movie-Watching Compared to Rest*, Organization for Human Brain Mapping (OHBM) annual meeting, Montréal, Québec, Canada

Invited Workshop Presentations

Tafakkor A., **Zargarnezhad N.** (2026) *Responsible use of Artificial Intelligence (AI) in research*, Undergraduate Summer Research Internship (USRI) research and professional development workshop series, Centre for Brain and Mind, University of Western Ontario, London, Ontario, Canada

Zargarnezhad N. (2025), *Virtual Soundscapes and the AudioDome*, BrainSCAN Computational Core Methods Lunch series, University of Western Ontario, London, Ontario, Canada

Open Science Contributions

Zargarnezhad N., Mesquita B., Macpherson EA., Johnsrude IS. (2025) *Head-and-Torso Simulator (HATS) recordings of spatialized sinusoidal sweep presentations via UWO's AudioDome*, the Open Science Framework, doi: 10.17605/OSF.IO/K9684

Zargarnezhad N. (2025) *The AudioDome Python Module*, GitHub, 2025 version

Functional Fusion Framework: Reviewed and edited the documentation of the *Functional Fusion Framework*: a neuroimaging data framework to investigate brain organization across datasets developed by the Diedrichsen lab.

Appearances on Public Media and Interviews

2025	Interview Guest, *Reproducing Soundscapes with the AudioDome*, Across Acoustics (The official podcast of the Acoustical Society of America's Publications' Office), 7 July 2025
2025	Featured Author, *Simulate Sound in 3D at a Finer Scale than Humans Can Perceive*, AIP publishing news, 15 April 2025

Other Contributions

2025	Peer Reviewer, Hearing Research (Elsevier) [1]
2025	Reviewer, Western Undergraduate Psychology Journal, University of Western Ontario [1]
2025	Trainee Data Blitz and Poster Presentation Judge, Neuroscience Research Day, University of Western Ontario
2024	Peer Reviewer, Trends in Hearing (SAGE publications) [1]

Activities

Certificates and Workshops

2026	Graduate Student Innovation Scholars (GSIS) program, Morrissette Entrepreneurship, University of Western Ontario, London, Ontario, Canada
2025	Cognition and Natural Sensory Processing (CNSP) Workshop and Hackathon, International

Conference on Auditory Cortex, Maastricht, Netherlands

2024-2025 Impact Scholars Program, NeuroMatch Academy, Beaverton, USA (international online summer intensive program)

2024 NeuroAI (course and project completion), NeuroMatch Academy, Beaverton, US(international online summer intensive program)

- *Final project selected as one of the four NeuroAI projects (among ~80 teams) for the Impact Scholars Program to receive 6 months of extra support and resources to expand and publish*

Leadership and Organizations

2025- Career Development and Mentoring Manager, Student and Postdoc Special Interest Group (SP-SIG), Organization for Human Brain Mapping (OHBM)

2026 Executive Volunteer, BrainHack Western 2026, University of Western Ontario, London, Ontario, Canada

2025-2026 Co-Executive Head, Neuroscience Research Day (NRD) 2026, University of Western Ontario, London, Ontario, Canada

2023-2024 Grad Expo Committee Member, Inspiring Diversity in STEM (IDSTEM) conference, University of Western Ontario, London, Ontario, Canada

2022-2023 Councillor (Neuroscience Graduate Students representative), Society Of Graduate Students (SOGS), University of Western Ontario, London, Ontario, Canada

2022-2023 Member, Big Ideas Discussion Club Committee, Society of Neuroscience Graduate Students (SONGS), University of Western Ontario, London, Ontario, Canada

2020-2021 Executive Head, Sharif Neuroscience Symposium (SNS) 2021, Sharif University of Technology, Tehran, Iran

2019-2021 Honored Senior Member, Resana scientific and cultural student association, Sharif University of Technology, Tehran, Iran

2018-2019 President, Resana scientific and cultural student association, Sharif University of Technology, Tehran, Iran

Undergraduate Student Mentoring

2023-2024 Ezgi Coskun (Neuroscience Undergraduate Program)

2022-2023 Robert Menzies (Psychology and Pharmacology Undergraduate Programs)

Other

2025-2026 Social Media Coordinator, London Community Orchestra, London, Ontario, Canada

2024- Cellist, London Community Orchestra, London, Ontario, Canada

Memberships

2022- Member, Organization for Human Brain Mapping (OHBM)

2024-2025 Member, Cognitive Neuroscience Society (CNS)

2023-2025 Member, Association for Research in Otolaryngology (ARO)