

Alireza Kazemi

PHD CANDIDATE • DEVELOPMENTAL AND COGNITIVE PSYCHOLOGY

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Education



University of California, Davis

Davis, CA, USA

PH.D. CANDIDATE IN COGNITIVE AND DEVELOPMENTAL PSYCHOLOGY

Expected 2024

- **Supervisor:** Dr. Simona Ghetti.
- **Research focus:** Development of memory and metamemory using behavioral, fMRI, eye-tracking, and novel modeling methods.



University of California, Davis

Davis, CA, USA

M.A. IN PSYCHOLOGY

2017-2020

- **Supervisor:** Dr. Simona Ghetti.
- **Research focus:** Development of memory and metamemory using behavioral, fMRI, eye-tracking, and novel modeling methods.



University of Tehran

Tehran, Iran

M.SC. IN BIOMEDICAL ENGINEERING

2011-2014

- **Thesis Title:** Study on the Biofeedback Effects in Sleeping Procedure.
- **Supervisor:** Dr. Seyed Kamaleddin Setarehdan.



Shahid Beheshti University

Tehran, Iran

B.SC. IN ELECTRONIC ENGINEERING

2006-2011

- **Thesis Title:** Simultaneously Solving Schrodinger and Poisson Equations in Parallel Using Distributed Computing Methods and FDTD (Finite Difference Time Domain) to Simulate Quantum Electronic Devices.
- **Supervisor:** Dr. Mohammad Javad Sharifi.

Professional Skills

Methods and Algorithms

- Statistical Modeling and Analysis
- fMRI Data Analysis
- Representational Similarity Analysis
- Computational Modeling
- Biological Signal Processing (BSP)
- Deep Neural Networks and AI
- Experimental Design
- Discrete Time Signal Processing (DSP)
- Object Oriented Programming
- Pattern Recognition and Machine Learning

Programming Languages

- Python
- R
- MATLAB
- C++
- Go

Softwares and Toolboxes

- SPM/FSL
- fMRIPrep
- EEGLab
- Scikit-learn
- PyTorch

Positions

University of California, Davis

CA, USA

TEACHING ASSISTANT

Sep. 2017 to Present

- Teaching assistant in the Psychology department in General Psychology, Cognitive Psychology, Cognitive Development, Cognitive Neuroscience and Memory Development

University of California, Davis

CA, USA

ASSISTANT INSTRUCTOR

Winter 2023 quarter

- Instructing undergraduate course: PSC146 - The Development of Memory

NR Sign Inc.

RESEARCHER

Vancouver, Canada

Sep. 2014 to Jan. 2017

- Researching on DC potential and SD (Spreading Depression) detection and evaluation in EEG signals that are acquired from rat and human brain (In Iranian branch of the company).

Padra Trading and Technology Ltd.

TECHNICAL ADVISOR

Tehran, Iran

Feb. 2011 to Dec. 2011

- Working as technical advisor about instrumentation of electrical engineering laboratories in universities.

Tehran Securities Exchange Technology Management Co.

TECHNICAL SUPERVISOR (AS TRAINEE)

Tehran, Iran

Jul. 2010 to Dec. 2010

- Trainee in technical supervision division. Maintaining hardware of Iran's stock exchange server.

Shahid Beheshti University

TEACHING ASSISTANT

Tehran, Iran

Sep. 2008 to Sep. 2011

- Teaching assistant in the Electrical Engineering department in Digital Logic, Microprocessors, Instrumentation courses.

Publications

- [Kazemi, A.](#), Christopher-Hayes, N., Lee, J., Bunge S. & Ghetti, S., (In Prep.), **Development of memory for spatial location: Insight from overt behavior, eye-movements and hippocampal volumes.** *OSF Pre-Registration*, DOI
- [Kazemi, A.](#), Nouri, S., Mirian M.S., Lee S., & McKeown J.M., (2024), **Predicting Motor Vigor from EEG Phase Amplitude Coupling (PAC) in Parkinson's Disease: Effects of Dopaminergic Medication and Non-invasive Modulation.** *medRxiv*, DOI
- [Kazemi, A.](#), Christopher-Hayes, N., Lee, J., Geng, J. & Ghetti, S., (2023), **Looking Behavior and Relational Memory: Novel Approaches to Analyze Temporal Dynamics of Eye Movements.** *PsyArXiv Preprint*, DOI
- Selmeczy, D., [Kazemi, A.](#), & Ghetti, S., (2023), **Seeking Versus Receiving Help: How Children Integrate Suggestions in Memory Decisions.** *Child Development*, DOI
- [Kazemi, A.](#), & Ghetti, S., (2022), **HMLET – a Handy Machine-Learning based package for Eye-Tracking data analysis.** *Github*, Link
- Arani K.S., [Kazemi, A.](#), Mirian M.S., Vahabie A., Verchere W.D., Lee S., Soltanian-Zadeh H., & McKeown J.M., (2022), **Evaluating the Effect of Galvanic Vestibular Stimulation in Parkinson's disease via Microstate Resting State EEG Analysis.** *29th National and 7th International Iranian Conference on Biomedical Engineering* , DOI
- [Kazemi, A.](#), Coughlin, C., DeMaster, D., & Ghetti, S., (2022), **Contextual Features in the Developing Hippocampus: A Representational Similarity Analysis.** *Hippocampus* 1-12, DOI
- [Kazemi, A.](#), McKeown, J.M., & Mirian, M.S., (2022), **Sleep Staging Using Semi-Unsupervised Clustering of EEG: application to REM Sleep Behavior Disorder.** *Biomedical Signal Processing and Control*, 75, DOI
- [Kazemi, A.](#), Mirian, M.S., & McKeown, J.M., (2021), **Galvanic vestibular stimulation effects on EEG biomarkers of motor vigor in Parkinson's disease.** *Frontiers in neurology*, 12, DOI
- Casciola, A.A., Carlucci, S.K., Kent, B.A., Punch, A.M., Muszynski, M.A., Zhou, D., [Kazemi, A.](#), Mirian, M.S., Valerio, J., Mckeown, M.J., & Nygaard, H.B., (2021), **A Deep Learning Strategy for Automatic Sleep Staging Based on Two-Channel EEG Headband Data.** *Sensors*, 21 (10), DOI
- Selmeczy, D., [Kazemi, A.](#), & Ghetti, S., (2021), **Developmental Differences in Subjective Recollection and its Role in Decision Making** *Child Development*, 92 (6), DOI
- Leckey, S., Selmeczy, D., [Kazemi, A.](#), Johnson, E., Hembacher, E., & Ghetti, S., (2020), **Response latencies and eye gaze provide insight on how toddlers gather evidence under uncertainty.** *Nature Human Behaviour*, 4(9), DOI
- Bastany, Z. J., Askari, S., Dumont, G. A., Kellinghaus, C., [Kazemi, A.](#), & Gorji, A., (2020), **Association of cortical spreading depression and seizures in patients with medically intractable epilepsy.** *Clinical Neurophysiology*. 131(12), DOI
- Yaghouti, M., Sharifi, M.J., & [Kazemi, A.](#) (2013), **Optimal spin-state transition in singly occupied quantum dots network.** *Journal of Applied Physics*, 113(2), DOI

Presentations

- Mooney, L., Karjack, S., [Kazemi, A.](#), & Ghetti, S., **Hippocampal Function and Memory in the Second Year of Life.** Society for Developmental Cognitive Neuroscience Flux conference. (September, 2023). Santa Rosa, California.
- [Kazemi, A.](#), Mooney, L., & Ghetti, S., **Word Learning in Toddlers, a Representational Similarity Analysis.** International Conference on Learning and Memory. (April, 2023). Huntington Beach, California.
- [Kazemi, A.](#), Mooney, L., & Ghetti, S., **Examining Reactivation of Hippocampal Representations in Sleeping Toddlers.** Society for Research in Child Development (March, 2023). Salt Lake City, Utah.

- Mooney, L., [Kazemi, A.](#), & Ghetti, S., **Representational Similarity in the Toddler Hippocampus.** FLUX (September, 2022). Paris, France.
- Mirian, M.S., [Kazemi, A.](#), Hussain R., Lee S., Verchere, W.D., Ward, R.K. & McKeown, M., **Galvanic Vestibular Stimulation effects on LSTM-based EEG neuro-markers of Motor Vigor in Parkinson’s Disease.** Brain Stimulation: Basic, Translational, and Clinical Research in Neuromodulation (December, 2021), Charleston, South Carolina.
- [Kazemi, A.](#), & Ghetti, S., **Representational Similarity Analysis Reveals Development of Contextual Binding Along the Anterior-Posterior Axis of the Hippocampus.** Society for Research in Child Development. (April, 2021). Virtual.
- Leckey, S., Selmeczy, D., Johnson, E., [Kazemi, A.](#), Hembacher, E., & Ghetti, S., **Toddlers’ Uncertainty in a Perceptual Decision Task: Insight From Drift Diffusion Modeling.** Society for Research in Child Development. (March, 2019). Baltimore, Maryland.
- Selmeczy, D., [Kazemi, A.](#), & Ghetti, S., **”Should I use your hint?”** How children integrate hints into their memory decisions. Society for Research in Child Development. (March, 2019). Baltimore, Maryland.
- Selmeczy, D., [Kazemi, A.](#), & Ghetti, S., **”Should I ask for help?”:** How children weigh their confidence and available evidence. Cognitive Development Society. (October, 2019). Louisville, Kentucky.

Patents

Anxiety Remover, Sedative and Sleeping Smart Device

Owner: *Alireza Kazemi*

Patent Number: 1394/02/13 - 85581

Patents Of Iran

2015