

ATLAS KAZEMIAN

PhD Student, Stanford University
AI · Computational Neuroscience

atlaskaz@stanford.edu



EDUCATION

Stanford University, Palo Alto, CA

Ph.D. Psychology (Neuroscience track), Minor in Computer Science
2024–Present

Johns Hopkins University, Baltimore, MD

M.A. Cognitive Science
2022–2023

University of British Columbia, Vancouver, BC

B.A.S. Integrated Engineering
2015–2020

RESEARCH EXPERIENCE

PhD Student, Department of Psychology (Neuroscience track)

Stanford University, Palo Alto, CA | 2024–Present

- Co-advised by Laura Gwilliams and Daniel K. Yamins.
- Developing multimodal video-audio deep learning models for human-like information processing.
- Using state-of-the-art speech models and LLMs for studying speech and language processing in the brain

M.A. Researcher, Department of Cognitive Science

Johns Hopkins University, Baltimore, MD | 2022–2023

- Advised by Michael Bonner.
- Developed high dimensional random convolutional neural networks (CNNs) as models of primate visual cortex
- Benchmarked these models against state-of-the-art deep learning vision models on neural alignment with macaque and human visual representations.

Research Assistant, Department of Ophthalmology and Visual Sciences

University of British Columbia, Vancouver, BC | 2021–2022

- Co-advised by Jason Barton and Ipek Oruc.
 - Applied CNNs to study face scanning patterns in prosopagnosia using eye tracking data.
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INDUSTRY EXPERIENCE

Computer Vision Engineer

Mytra AI, San Francisco, CA | 2023–2024

- Developed end-to-end computer vision pipelines for warehouse robotics.
- Fine-tuned object detection models for collision avoidance.
- Implemented edge detection and keypoint estimation for robot axes centering.

Data Science Intern

AdHawk Microsystems, Toronto, ON | 2022

- Built pipelines for predicting mental fatigue from eye-tracking data.
- Led experimental design, data collection, and ML modeling.

Data Science Intern

Neobi, Calgary, AB | 2021

- Scraped and analyzed e-commerce web data for the Canadian cannabis market.
 - Applied topic modeling and sentiment analysis to customer reviews.
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PUBLICATIONS

- **Kazemian, A.**, Elmoznino, E., & Bonner, M. F. (2025). *Convolutional architectures are cortex-aligned de novo*. *bioRxiv* <https://doi.org/10.1101/2024.05.10.593623> (submitted)
 - **Kazemian, A.**, Oruc, I., & Barton, J. J. S. (2025). *Scanning faces: a deep learning approach to studying eye movements in prosopagnosia*. *Frontiers in Neurology*. <https://doi.org/10.3389/fneur.2025.1616509>
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CONFERENCE PRESENTATIONS

- **Conference on Cognitive Computational Neuroscience (CCN)**, 2025
Satellite event: Modeling the Biophysical Brain
Kazemian, A., Shah, Yash., Mehrer, J., Yamins, D., Schrimpf Martin.
Poster: *Intracranial EEG reveals multiplexed encoding of auditory, speech, and language embeddings in the human temporal lobe*
Kazemian, A., Parvizi, J., Yamins, D., Gwilliams, L.

- **Johns Hopkins AI X Foundry Symposium**, 2023
 - **Poster:** *Predicting visual cortex representations with high-dimensional untrained neural networks*
Kazemian, A., Elmoznino, E., Bonner, M.
 - **Conference on Cognitive Computational Neuroscience (CCN)**, 2023
Keynote Tutorial: *A high-dimensional view of computational neuroscience*
Gauthaman, R. M., **Kazemian, A.**, Chen, Z., Guth, F., Bonner, M.
Poster: *High-dimensional sampling in random neural networks competes with deep learning models of visual cortex*
Kazemian, A., Elmoznino, E., Bonner, M.
 - **Vision Sciences Society (VSS)**, 2022
Talk: *Toward a computational neuroscience of visual cortex without deep learning*
Kazemian, A., Elmoznino, E., Bonner, M.
 - **Conference on Cognitive Computational Neuroscience (CCN)**, 2022
Poster: *Towards high-performance encoding models of visual cortex using modules of canonical computations*
Kazemian, A., Elmoznino, E., Bonner, M.
 - **North American Neuro-Ophthalmology Society (NANOS)**, 2022
Poster: *Scanning faces: A deep learning approach to studying the eye movements of subjects with prosopagnosia*
Kazemian, A., Oruc, I., Barton, J.
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AWARDS AND FELLOWSHIPS

- Stanford School of Humanities and Sciences Dean's Scholar Award, 2024
 - Stanford EDGE Fellowship, 2024
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TECHNICAL SKILLS

- **Programming:** Python, SQL, C++
- **Deep Learning Frameworks:** PyTorch, TensorFlow
- **Computational Neuroscience:** fMRI analysis, dimensionality reduction, cross-validated regression, eye-tracking analysis
- **Machine Learning & Data Analysis:** scikit-learn, SciPy, Xarray, NumPy, Pandas
- **Visualization:** Matplotlib, Seaborn, Plotly
- **Tools:** Git, Jupyter Notebook