Kedar Garzón Gupta

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EDUCATION

Columbia University — New York, NY
Ph.D. in Neurobiology & Behavior — August 2024 –

University of California, Los Angeles — Los Angeles, CA
B.S. in Cognitive Science — June 2021

RESEARCH EXPERIENCE

Graduate Researcher — August 2024 –
Columbia University — New York, NY
Advisor: Nikolaus Kriegeskorte, Ph.D.

- Leading several projects investigating architectural constraints in neural networks, combining principles from visual neurobiology with deep learning methods to improve model efficiency.
- Developing and testing neural network models using GPU cluster computing, managing large-scale experiments and systematic evaluation of model performance.

Research Assistant — December 2021 – June 2024
The Rockefeller University — New York, NY
Advisors: Winrich Freiwald, Ph.D. and Lucas Tian, Ph.D.

- Ran behavioral experiments and performed data analysis for studies on the neural mechanisms underlying complex, rule-based sequential movements in rhesus macaque monkeys.
- Led development of an automated software pipeline for efficiently extracting single neuron spiking signals from large (500+ GB) neural recording datasets.

Research Assistant — June 2020 – August 2020
UCLA Luskin School of Public Affairs — Los Angeles, CA
Advisors: Sara Wilf, Ph.D. and Laura Wray-Lake, Ph.D.

- Conducted qualitative analysis and literature review for study on social media use among immigrant youth, contributing to published manuscript.

Research Volunteer — August 2019 – June 2021
UCLA Department of Psychology — Los Angeles, CA
Advisors: Steven Pan, Ph.D. and Hunter Priniski, Ph.D.

- Designed and conducted behavioral experiments on learning and memory, managing participant recruitment and experimental protocols.
- Conducted exploratory Bayesian network analysis examining how individuals update beliefs about politically charged topics in response to new information.

ADDITIONAL EXPERIENCE

Freelance Science Writer — September 2021 – October 2021
CommonLit — Remote

- Authored two science education articles for 4th grade open-source curriculum, reaching thousands of elementary students nationwide.

Civic Digital Fellow June 2021 – August 2021
U.S. Internal Revenue Service Washington, D.C.
Division: Research, Applied Analytics & Statistics

- Led development of a Spanish natural language processing model for answering common tax filing questions.
- Presented work to senior IRS leadership, directly leading to additional project funding and development of online chatbots serving >13 million users annually.

Software Engineer Intern July 2019 – September 2019
Procore Technologies Carpinteria, CA

- Maintained and tested Ruby on Rails codebase for production APIs serving thousands of developers, ensuring compatibility across system updates.

Library Assistant June 2018 – March 2020
UCLA Library Los Angeles, CA

- Assisted with digitization of archival video materials for political science research, managing technical workflows and preservation protocols.
- Organized and archived historical documents for California municipalities, maintaining systematic records for long-term accessibility.

PEER-REVIEWED PUBLICATIONS

L.Y. Tian, K. Garzón Gupta, D.J. Hanuska, A.G. Rouse, M.A.G. Eldridge, M.H. Schieber, X.-J. Wang, J.B. Tenenbaum, W.A. Freiwald (2026). Neural representations of action symbols in primate frontal cortex. *Nature (in press)*.

S. Wilf, E. Maker Castro, K. Garzón Gupta, L. Wray-Lake (2022). Shifting Culture and Minds: Immigrant-Origin Youth Building Critical Consciousness on Social Media. *Youth & Society*, *55*(8), 1589-1614.

CONFERENCE PRESENTATIONS

L. Tian, D. Hanuska, K. Garzón Gupta, J. Tenenbaum, X.-J. Wang, W. Freiwald (2026). A structured population code for a symbolic action grammar. *23rd Annual Computational and Systems Neuroscience Conference (COSYNE)*. Lisbon, Portugal. **Poster.**

L. Tian, K. Garzón, D. Hanuska, X.-J. Wang, J. Tenenbaum, W. Freiwald (2025). Neural substrates of a symbolic action grammar in primate frontal cortex. *22nd Annual Computational and Systems Neuroscience Conference (COSYNE)*. Montréal, Canada. **Main Talk.**

FELLOWSHIPS & AWARDS

Kavli Conference Travel Grant, Columbia University 2025

Civic Digital Fellowship, Coding It Forward / U.S. Internal Revenue Service 2021

Dean's List, University of California, Los Angeles 2019, 2020

SKILLS

Coding: Python (PyTorch, NumPy, pandas), Git, Linux/Bash, cluster computing

Neuroscience Methods: single-neuron electrophysiology, spike sorting, neural network modeling