Stanford

Yash Shah

Ph.D. Student in Computer Science, admitted Autumn 2025

Curriculum Vitae available Online

Bio

BIO

I am a PhD student in the Department of Computer Science. I am interested in how the mammalian brain is functionally and spatially organized over the course of evolution, gestation, and development, and what mechanistic constraints, inductive biases, and environmental statistics shape that organization. To generate hypotheses about so, I use deep artificial neural networks to study how their optimization under different constraints map to their match, both functionally and spatially, to the corresponding biological system being modeled. Prior to starting his PhD, I earned a master's degree in computer science from Stanford University and a bachelor's degree in computer science from the University of California, San Diego. In my free time, I like to be outdoors, read and write, do art, and think about circles.

EDUCATION AND CERTIFICATIONS

- Master of Science, Stanford University , Computer Science (2025)
- Bachelor of Science, University of California, San Diego , Computer Science (2023)

LINKS

- https://ynshah3.github.io: https://ynshah3.github.io
- Google Scholar: https://scholar.google.com/citations?user=jv7k4-kAAAAJ&hl=en&authuser=1
- NeuroAI Lab Website: https://neuroailab.stanford.edu
- VPNL Lab Website: https://vpnl.stanford.edu/

Research & Scholarship

RESEARCH INTERESTS

- Brain and Learning Sciences
- Data Sciences
- Psychology

CURRENT RESEARCH AND SCHOLARLY INTERESTS

My research interests lie in developing neuroconnectionist mechanistic models of the brain that deepen our understanding of neural computation and representations. I aim to explore how physiological and anatomical constraints shape cortical topography and, in turn, scaffold development. I am particularly intrigued by observing certain behaviors emerge from mechanistic models, even when the model was not optimized to do so.

Publications

PUBLICATIONS

- **Confounder-Free Continual Learning via Recursive Feature Normalization.** *Proceedings of machine learning research*
  Shah, Y., Gonzalez, C., Abbasi, M. H., Zhao, Q., Pohl, K. M., Adeli, E.
  2025; 267: 54112-54142