

Kristine Zheng

She/Her

✉ kxzheng@stanford.edu | 🏠 kristinezheng.github.io | 🐦 @kristinexzheng

Education

Massachusetts Institute of Technology

B.S. IN COMPUTER SCIENCE AND BRAIN & COGNITIVE SCIENCES; GPA: 5.0/5.0

- Minor in Women's and Gender Studies

Cambridge, MA

Sept. 2020 – May 2024

Awards & Honors

- 2024 – IRiSS Predoctoral Research Fellowship, Stanford
- 2023 - 2024 EECS|CS+HASS Undergraduate Research & Innovation Scholarship, MIT
- 2024 Phi Beta Kappa, MIT Xi Chapter
- 2024 Undergraduate Research Award, MIT BCS
- 2023, 2024 Academic Award, MIT BCS
- 2023 Eta Kappa Nu Society, MIT Beta Theta Chapter
- 2021 - 2023 Undergraduate Research Opportunities Program (UROP) Grant, MIT
- 2022 Princeton Neuroscience Institute Summer Internship Program (PNI-SIP)

Research Experience

Cognitive Tools Lab, Stanford

ADVISED BY JUDITH FAN

July 2024 -

- Investigating social and cognitive mechanisms that support the development of statistics reasoning (e.g. problem solving, visualization, programming, natural language) in formal education through large-scale field experiments

Computational Cognitive Science Group, MIT

ADVISED BY JOSHUA TENENBAUM

Sept. 2022 -

- Characterizing childhood development of physical stability and support reasoning, co-advised by Laura Schulz (MIT ECCL)
- Evaluated human and neural network model perception of nonrigid objects' physical properties (e.g. elasticity, viscosity)
- Leveraged a Bayesian theory-based intuitive physics model to assess the stability of programmatically generated 3D structures

Niv Lab, Princeton

ADVISED BY Yael Niv

June 2022 - Aug. 2022

- Developed a real-time stimulus generator pipeline and studied the effects of valence on latent state inference
- Simulated reinforcement learning models (e.g. Markov decision processes, actor-critic) for human behavioral studies

DiCarlo Lab, MIT

ADVISED BY JAMES DICARLO, KOHITIJ KAR

Sept. 2021 - May 2022

- Evaluated object size representation bias in DCNNs and primate IT, and contributed benchmarks for primate-aligned vision models

Presentations & Publications

Zheng, K., Yu, I. (2023) *Jenga as a Performance Art: Computational Generation of Surprisingly Stable Structures*. Poster presented at IEEE MIT Undergraduate Research Technology Conference (URTC). Cambridge, MA.

Zheng, K., Bedder, R., Niv, Y. (2022). *How do Humans Generalize and Discriminate Between Experiences?* Poster presented at the Society for Neuroscience, FUN Undergraduate Poster Session. San Diego, CA.

Paulun, V.C., **Zheng, K.**, Kar, K., (2022). Distributed population activity in the macaque inferior temporal cortex but not current deep neural networks predict the ponzo illusion. *Journal of Vision*, 22(14).

Gong, Y., Brauer M.H., **Zheng, K.** and Li, W. (2020). Accelerated, Reactive Aging Tests of Parylene C, SiO₂, and Si₃N₄ Packages for Chronic Neural Implants. *IEEE 15th International Conference on Nano/Micro Engineered and Molecular System (NEMS)*.

San Diego, CA.

Gong, Y., Liu, W., Wang, R., Brauer, M.H., **Zheng, K.**, and Li, W. (2020). Stability Performance Analysis of Various Packaging Materials and Coating Strategies for Chronic Neural Implants under Accelerated, Reactive Aging Tests. *Micromachines*, 11(9), 810.

INVITED TALKS

April 2023. *Jenga as a Performance Art*. Garden of the Mind, MIT.

Teaching Experience

TEACHING ASSISTANT

Fall '24 **PSYCH 10 Introduction to Statistical Methods** Stanford

Sp. '23, '24 **9.00 Introduction to Psychology** MIT

Professional Experience

TigerGraph

DEVELOPER ADVOCATE INTERN

Jan. - Aug. 2022

- Developed full-stack applications, worked with clients and user community, and led workshops (Women Who Code)

Optum

SOFTWARE ENGINEERING INTERN WITH THE ADVANCED TECHNOLOGY COLLABORATIVE

June - Aug. 2021

- Constructed recommendation systems with machine learning graph algorithms

Service & Outreach

OUTREACH

Fall '23 **MIT ESP Splash** "Neuroscience behind perceptual illusions" seminar for HS students

UNIVERSITY & COMMUNITY SERVICE

2023 - 2024 **MIT Ad Hoc Committee on Arts, Culture, and DEI** Representative

2023 - 2024 **MIT Voxel Lab (Art & Music Innovation Makerspace)** Staff & Mentor

2021 - 2024 **MIT Peers Leading Education About Sexuality and Speaking Up for Relationship Empowerment (PLEASURE)** Facilitator

2020 - 2024 **MIT Undergraduate Association** Exec. and Project Lead

Skills & Misc

Programming: Python, JavaScript, R, MATLAB, SQL/GSQL, HTML & CSS

Research Tools: PyTorch, jsPsych, ROS, Blender, Realflow, Qualtrics, Adobe Creative Suite

Misc: Design – created logos and merchandise for various orgs. at MIT and Stanford