

# Kristine Zheng She/Her

✉ kxzheng@stanford.edu | 🏠 kristinezheng.github.io | @kristinezheng.bsky.social

## Education

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### 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

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- 2024 - IRiSS Predoctoral Research Fellowship, Stanford University
- 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

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### Cognitive Tools Lab, Stanford

ADVISED BY JUDITH FAN

July 2024 - Present

- Studying the social and cognitive mechanisms that support the development of statistics reasoning in formal education through large-scale field experiments
- Investigating the factors that makes experiences (e.g. games, school) engaging and fun

### Computational Cognitive Science Group, MIT

ADVISED BY JOSHUA TENENBAUM, VIVIAN PAULUN, MAX SIEGEL

Sept. 2022 - 2024

- Characterized children's development of physical stability and support reasoning; project with Laura Schulz (MIT ECCL)
- Evaluated the joint perception of object shape and physical properties (e.g., elasticity, viscosity) in both humans and DNN models
- Leveraged a probabilistic intuitive physics model to programmatically generate 3D structures based on human stability reasoning

### Niv Lab, Princeton

ADVISED BY Yael Niv, Rachel Bedder

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

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

## Publications

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**Zheng, K.**, Brockbank, E., Schwartz, S. T., Bryan, C., Dweck, C., and Fan, J. E. (2025). Linking student psychological orientation, engagement, and learning in college-level introductory data science. *Proceedings of the 47th Annual Meeting of the Cognitive Science Society*.

Chu, J., **Zheng, K.**, Zheng, K., and Fan, J. E. (2025). What makes people think a puzzle is fun to solve? *Proceedings of the 47th Annual Meeting of the Cognitive Science Society*.

- Vinker, Y., Shaham, T.R., **Zheng, K.**, Zhao, A., Fan, J., & Torralba, A. (2025). SketchAgent: Language-Driven Sequential Sketch Generation. *Computer Vision and Pattern Recognition (CVPR)*. Nashville, TN.
- Paulun, V.C., Siegel, M.H., **Zheng, K.**, & Tenenbaum, J. (2024). Perceiving materials and objects from semi-visible interactions. *Annual meeting of the Vision Science Society (VSS)*, St. Petersburg, FL.
- 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. *Annual meeting of the Vision Science Society (VSS)*, St. Pete Beach, Florida.
- Gong, Y., Liu, W., Wang, R., Brauer, M.H., **Zheng, K.**, & 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.
- Gong, Y., Brauer M.H., **Zheng, K.** & Li, W. (2020). Accelerated, Reactive Aging Tests of Parylene C, SiO<sub>2</sub>, and Si<sub>3</sub>N<sub>4</sub> Packages for Chronic Neural Implants. *IEEE 15th International Conference on Nano/Micro Engineered and Molecular System (NEMS)*. San Diego, CA.

## Presentations

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- Zheng, K.** & Yu, I. (2023, Oct.). Jenga as a Performance Art: Computational Generation of Surprisingly Stable Structures. *IEEE MIT Undergraduate Research Technology Conference (URTC)*. Cambridge, MA.
- Zheng, K.**, Bedder, & R., Niv, Y. (2022, Nov.). How do Humans Generalize and Discriminate Between Experiences? *Society for Neuroscience, FUN Undergraduate Poster Session*. San Diego, CA.

## Symposia & Workshops Organized

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- 2025 **CogSci Symposium: Minds at School**
- Fall '24 **CourseKata Researcher Workshop (DREAM): Insights from data science education research**

## Invited Talks

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- Nov. 2024 **Teaching and Learning Lab (TALL), UCLA.**

## Teaching Experience

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- Fall '24 **PSYCH 10 Introduction to Statistical Methods, Stanford**
- Sp. '23, '24 **9.00 Introduction to Psychology, MIT**

## Professional Experience

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### TigerGraph

DEVELOPER ADVOCATE INTERN

Jan. - Aug. 2022

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

## Service & Outreach

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### REVIEWS

- 2025 **Cognitive Science Society**

### COMMUNITY OUTREACH

- Fall '24 - **Stanford Science Penpals Program** Penpal & Mentor
- Sp '25 **Stanford Brain Day** Volunteer TA for local middle school students
- Fall '24 **Stanford Psychology Paths to PhD program** Mentor & Volunteer
- Fall '23 **"Neuroscience behind perceptual illusions"** Seminar lecturer for HS students with MIT ESP Splash
- Sp '23 **"Jenga as a Performance Art"** MIT Presidential Inauguration Weekend Exhibit – Garden of the Mind: Reflections & explorations of the mind through its physical creations.

## UNIVERSITY & COMMUNITY SERVICE

- Sp '24 **MIT BCS Visiting Committee** Student Representative
- 2023 - 2024 **MIT Ad Hoc Committee on Arts, Culture, and DEI** Student 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 (Banana Lounge, Craft Market)

## Skills & Misc

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

**Technical Tools:** PyTorch, jsPsych, ROS, Blender, Realflow, Qualtrics, Adobe Illustrator

**Misc:** Design – created visuals, logos and more for various orgs. at Umich, MIT, and Stanford