Kristine Zheng She/Her

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Education

Massachusetts Institute of Technology *Cambridge, MA*

B.S. in Computer Science and Brain & Cognitive Sciences; GPA; 5.0/5.0 *Sept. 2020 – May 2024*

- Minor in Women's and Gender Studies

Awards & Honors

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

Cognitive Tools Lab, Stanford

Advised by Judith Fan *July 2024 - Present*

- 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, Vivian Paulun, Max Siegel *Sept. 2022 - Present*

- Characterizing 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 neural network models.
- Leveraged a Bayesian theory-based 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*

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

Presentations & Publications

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).*

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, USA*

Zheng, K. & Yu, I. (2023). 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). How do Humans Generalize and Discriminate Between Experiences? *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. *Annual meeting of the Vision Science Society (VSS), St. Pete Beach, Florida.*

Gong, Y., Brauer M.H., **Zheng, K.** & 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.**, & 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

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

Teaching Experience

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)

Service & Outreach

Outreach

Fall ’24 - Sp ’25 **Stanford Science Penpals Program** Penpal & Mentor

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)

Workshops

2025 **CogSci Symposium: Minds at School** Organizer

Fall '24 **CourseKata Researcher Workshop (DREAM): Insights from data science education research** Organizer

Conference Reviewing

2025 **Cognitive Science Society**

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 Umich, MIT, and Stanford