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
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