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Jin Ke

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EMPLOYMENT & EDUCATION

University of Chicago 2022 – Present
Research Specialist, Advisor: Dr. Monica Rosenberg

University of Chicago 2021 – 2022
M.A. in Social Sciences - Psychology Concentration; GPA: 3.88/4.00
Certificate in Computational Social Science; GPA: 3.90/4.00

Peking University 2017 – 2021
Bachelor of Science in Psychology; Bachelor of Environmental Sciences

GRANTS & AWARDS

Phoenix Research Award Scholarship ($ 20,000), University of Chicago
Beijing Principal's Research Grant (¥ 5,000), Peking University

MANUSCRIPTS

Ke, J., Song, H., Bai, Z., Rosenberg, M.D., & Leong, Y.C. (2023). Dynamic Functional Connectivity Encodes Generalizable Representations of Emotional Arousal But Not Valence. *bioRxiv*.

Park, J.S., **Ke, J.**, Gollapudi, K., Nau, M., Pappas, I., Leong, Y.C. (*in prep*). Functional Network Integration Mediates Arousal Effects On Naturalistic Recall.

Stanley, J. T., **Ke, J.**, Song, X., Mu, J., Chang, Y., Lin, H., & Zhang, X. (*in revision*). The Nature of Positivity Effects in Emotional Memory in a Chinese Sample: Both Valence and Arousal Matter.

CONFERENCE PRESENTATIONS

Ke, J., Ding, X., Chamberlain, T.A., Corriveau, A., Song, H., Zhang, Z., Martinez, T., Sams, L., & Rosenberg, M.D. (forthcoming). The Neural Signatures of Ongoing Thoughts During Rest. *Abstract submitted to Organization for Human Brain Mapping, Seoul, Korea.*

Ke, J., Song, H., Bai, Z., Rosenberg, M.D., & Leong, Y.C. (forthcoming). Generalizable Neural Representations of Emotional Arousal Across Individuals and Situational Contexts. *Abstract submitted to Social Affective Neuroscience Society, Toronto, Canada.*

Park, J.S., **Ke, J.**, Gollapudi, K., Pappas, I., Leong, Y.C. (forthcoming). Functional Network Integration Mediates Arousal Effects On Naturalistic Recall. *Abstract submitted to Cognitive Neuroscience Society, Toronto, Canada.*

Song, H., **Ke, J.**, Leong, Y.C., & Rosenberg, M.D. (forthcoming). Neural mechanisms of insight during narrative comprehension. *Abstract submitted to Organization for Human Brain Mapping, Seoul, Korea*.

Corriveau, A., **Ke, J.**, & Rosenberg, M.D.(forthcoming).Shared neural activation and co-fluctuations underlie auditory and visual sustained attention. *Abstract submitted to Organization for Human Brain Mapping, Seoul, Korea*.

Ke, J., Song, H., Bai, Z., Rosenberg, M.D., & Leong, Y.C. (2023). Dynamic Connectome-based Predictive Model of Affective Experience during Naturalistic Viewing. *Poster presented at Social Affective Neuroscience Society, Santa Barbara, CA.*

Ke, J. & Leong, Y.C. (2022). A Connectome-based Predictive Model of Affective Experience during Naturalistic Viewing. *Poster presented at the Conference on Cognitive Computational Neuroscience. San Francisco, CA.*

Ke, J. & Leong, Y.C. (2022). Affective Experience Predicts Narrative Engagement during Naturalistic Viewing. *Social Affective Neuroscience Society 2022 Naturalistic fMRI Data Analysis Challenge (virtual).*

Ke, J. & Zhang, X. (2020). Relation Orientation and Ageism: A Cross-cultural Comparison Between Chinese and Americans. *Talk given at the 72nd Annual Scientific Meeting of the Gerontological Society of America (virtual).*

RELEVANT RESEARCH EXPERIENCE

Cognition, Attention, & Brain Lab, University of Chicago

Research Staff, Advisor: ***Dr. Monica Rosenberg*** Jun. 2022 – present

- Leading project on the neural basis of ongoing thoughts during rest; collaborating on project investigating the neural computations involved in memory integration during narrative comprehension
- Performed functional connectivity, latent state, representational similarity, dynamic inter-subject correlation, and predictive modeling analyses of fMRI data in MATLAB, python, R and bash
- Independently collected 120 3.5-hour fMRI scan sessions, maintained detailed documentations for the experimental protocol, applied AFNI preprocessing pipeline to fMRI data, performed visual quality control
- Assisted in designing experiment, text stimuli, and memory assessment for an eye-tracking, EEG, and fMRI study relating mind-wandering depth to reading comprehension
- Mentored undergraduate student on project predicting narrative stimuli recall from moment-to-moment engagement during naturalistic movie watching
- Recruited participants, conducted consent meetings, assisted with building a participant pool across labs, managed lab reimbursements and website, and organized lab meetings

Motivation and Cognition Neuroscience Lab, University of Chicago

Research Assistant, Advisor: ***Dr. Yuan Chang Leong*** Oct. 2021 – present

- Leading project on the neural representations of affective experience during naturalistic movie watching; collaborating on project testing how locus coeruleus mediates motivational biases in decision-making
- Performed multivariate pattern, univariate GLM, inter-subject correlation, dynamic functional connectivity, and predictive modeling analyses of fMRI data in MATLAB, python, R, and bash
- Designed and coded a continuous rating task on affective experience during movie-watching in JsPsych and a perceptual decision-making experimental task in PsychoPy
- Applied FSL preprocessing pipeline to multiple fMRI datasets
- Optimized procedures to localize locus coeruleus in structural MRI images, registered it onto functional MRI scans using MATLAB and FSL, and maintained detailed documentation of the localization procedure
- Mentored graduate students on fMRI preprocessing, computational modeling, locus coeruleus localization, inter-subject correlation analysis, and functional network

Multilingualism & Decision-Making Lab, University of Chicago

*Research Assistant, Advisor****: Dr. Boaz Keysar*** Sep. 2021 – Jun. 2022

- Designed and implemented a behavioral decision-making task, conducted analysis in R
- Wrote a M.A. thesis, *Trust in uncertainty: The link between expectations of trustworthiness and information sharing in negotiation* (DOI: 10.6082/uchicago.3837)

Life-Span Development Laboratory, Peking University

*Research Assistant, Advisor****: Dr. Xin Zhang*** Apr. 2019 – Jun. 2021

Project I Gazing Preference and Memory Performance of Self-conscious Emotions

- Built a self-conscious emotion image dataset, designed and coded a free-viewing eye-tracking study in PsychoPy, analyzed data in SPSS and R, and prepared manuscripts and presentation for thesis defense
- Wrote undergraduate thesis, *An eye-tracking study on positivity effect in self-conscious emotions*

Project II Both Valence and Arousal Matter in Age-related Positivity Effect

- Built a basic emotion image dataset, coded an emotional memory task in MATLAB, built hierarchical linear models to predict memory from valence and arousal, and assisted with preparing manuscripts for publication

Project III Relation Orientation and Ageism: A Cross-cultural Comparison

- Performed multiple regression analysis to examine the role of relational closeness in in-group and out-group discrimination against the elders, presented the project at conference

Perception, Action & Cognition Lab, Brown University

Remote Research Assistant, Advisor: ***Dr. Joo-Hyun Song*** Jul. 2020 – Feb. 2021

- Designed and coded a visual search experiment in JsPsych, implemented the study and analyzed the data in R
- Found perceived intentionality of moving objects extends to related but not themselves intentional objects

College of Environmental Sciences and Engineering, Peking University

Research Assistant, Advisor: ***Dr. Ling Han*** Dec. 2020 – Jun. 2021

- Applied convolutional neural networks to build an environmental image database
- Designed and implemented a consumer decision-making task to examine how attitudes and social norms of products with various environmental image affect green consumer behaviors
- Wrote thesis, *The influence of products' environmental image on consuming behaviors*

Department of Psychology, Columbia University

Remote Research Assistant, Advisor: ***Dr. Michael Morris*** Apr. 2020 – Nov. 2020

- Generated questionnaire measures of relational mobility, willingness to forgive, and acceptance tolerance
- Analyzed data in SPSS to show that environmental humidity predicts differences in interpersonal interactions across regions in China

OTHER RELEVANT EXPERIENCE

Co-Reviewer, *Science Advances* Jun. 2022

Research Assistant Intern, *Ape Counseling Online Education*, Beijing, China May – Aug. 2021

- Created Attention and Thinking Ability Model for early childhood (3-8 years) development, modified continuous performance task and designed video games for Zebra online AI class for preschoolers to measure and improve their sustained attention

SKILLS

General Programming Proficient in Python, MATLAB, R; Competent in bash, JsPsych

Neuroscience and Psychology

Software: PsychoPy, FSL, AFNI, Qualtrics, FaceGen, E-prime, Mplus, HLM, SPSS

Hardware: Philips Achieva and Siemens Skyra 3.0T scanner, SR Research Eyelink 1000/Portable Duo eyetracker

fMRI Analysis: static & dynamic functional connectivity, connectome-based predictive modeling, inter-subject correlation, univariate general linear model (GLM), multivariate pattern analysis, representational similarity analyses, Hidden Markov modeling (HMM)

Other Tools HPC/Slurm, Jupyter, Hugging Face library, Premiere, Photoshop, beginner in Psiturk, Heroku, Docker

Language English (GRE: 333 – V163 Q170; TOEFL: 112 – R29 L29 S26 W28), Mandarin Chinese (Native)

GRADUATE COURSEWORK

NSCI 22400 Neuroscience of Seeing

PSYC 34810 Neuroeconomics

PSYC 38320 Mechanisms of Motivated Cognition

PSYC 31900 The Neuroscience of Narratives

PSYC 42350 Advanced Topics in Human Neuroimaging

MACS 30000 Perspectives on Computational Analysis

MACS 33002 Introduction to Machine Learning

MACS 40101 Social Network Analysis

MACS 30500 Computing for the Social Sciences