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EDUCATION

2022 - Present	MS	Psychology	Nanjing Normal University (Advisor: Hu Chuan-Peng)
2017 - 2022	BS	Psychology	Nanjing Normal University

PUBLICARTIONS

Liu, Y. K., & Hu, C. P. (2024). Behavioral and cognitive neuroscience findings regarding assumptions of the evidence accumulation model [In Chinese]. *Chinese Science Bulletin*, 69, 1068–1081. <https://doi.org/10.1360/TB-2023-1080>
(An English version is available in: <https://osf.io/preprints/psyarxiv/b29yv>)

Liu, Y. K., Yan, C. Y., & Hu, C.-P. (Stage 1 in-principle acceptance). Is CPP an ERP marker of evidence accumulation in perceptual decision-making? A multiverse study [Stage 1 Registered Report]. *PsyArXiv Preprints*. <https://osf.io/p6aum>

Yang, X. Y., ..., **Liu, Y. K.**, Xie, J. S. Characterizing and Evaluating Mental Health Misinformation on Social Media: A Qualitative and Deep Learning-Based Study. (in review).

Liu, Z., ..., **Liu, Y. K.**, & Hu, C.-P. (2024). The effectiveness of self: A meta-analysis of using self-referential encoding techniques in education. *British Journal of Educational Psychology*, 94(1), 112–137. <https://doi.org/10.1111/bjep.12636>

RESEARCH

Curriculum Vitae

2024.06 - PRESENT, How self-prioritization permeates perceptual precision,

- Designed psychophysical experiments and data analysis.

2024.09 - PRESENT, The Impact of Legal Professional Education on Moral and Legal Reasoning: A Neuroimaging Study,

- MRI preprocessing, GLM analysis;

2023.06 - PRESENT, Prediction modulates perceptual precision,

- Designed psychophysical experiments and utilized deep generative networks to create experimental materials;
- Developed computational models based on efficient encoding and predictive coding to investigate how prediction influences perceptual precision.

2022.06 - PRESENT, A ManyLabs style direct replication of O'Connell, Dockree, & Kelly. (2012), (Registered Report available at <https://osf.io/xhpu2/>)

- Conducted a direct replication experiment to investigate the relationship between CPP and evidence accumulation and collected EEG pilot data,
- Preprocessed raw EEG data and performed ERP and time-frequency analyses.

2022.01 - PRESENT, CPP as a neuro-marker of evidence accumulation in perceptual decision-making? A multiverse study, (Stage 1 Registered Report available at <https://osf.io/p6aum>)

- Preprocessed raw EEG data and conducted ERP and time-frequency analyses;
- Built a DDM (Drift Diffusion Model)-based neural joint model to examine the relationship between CPP (Centro-Parietal Positivity) and evidence accumulation in perceptual decision-making.

2023.03 – 2023.05, Characterizing and Evaluating Mental Health Misinformation on Social Media: A Qualitative and Deep Learning-Based Study.◦

- Fine-tuning Pretrained BERT for Text Property Evaluation

Curriculum Vitae

2022.06 – 2022.09, The effectiveness of self: A meta-analysis of using self-referential encoding techniques in education.

- Calculate the effect size

2021.09 - 2022.05, EEGManyPipelines: A Large-scale, Grassroots Multi-analyst Study of Electroencephalography Analysis Practices in the Wild

- EEG preprocessing and data analysis

RESEARCH & TEACHING EXPERIENCE

2021.02 – PRESENT Research Assistant, Mental Health Centre, Nanjing Normal University.

- *Responsibilities include:* Organized research data, analyze mental health data, wrote popular science articles.

2022.02 – 2023.06 Teaching Assistant, Psychological Statistics, Nanjing Normal University. Instructor: Prof. Hu Chuan-Peng
(Repository available at <https://github.com/Chuan-Peng-Lab/PsyStats>)

2022.09 - 2023.01 Teaching Assistant, Advanced Psychological Statistics (Bayesian Statistics), Nanjing Normal University. Instructor: Prof. Hu Chuan-Peng
(Repository available at <https://gitee.com/hcp4715/PyBayesian/tree/master/Archive>)

- *Responsibilities include:* leading review sessions, creating exam review material, grading exams and homework sets, and holding weekly office hours to assist students in mastery of material.

ACTIVITIES & TRAINING

2022.08 – PRESENT DDM (Drift Diffusion Model) Journal club,
Organizer: DDM Study Group (including myself)

- Organized sessions that include inviting original authors or volunteers to discuss and present topics on DDM.

Curriculum Vitae

2024.08.30 - 2024.08.31 The 3rd Chinese Open Science Network (COSN) Summer Hackathon, Hangzhou, Zhejiang,

Organizer: Chinese computational psychiatry network

- Discussed a complete ERP (Event-Related Potential) analysis workflow using MNE (MNE-Python).

2022.08.30 - 2022.08.31 The 3rd Chinese Open Science Network (COSN) Summer Hackathon, online,

Organizer: Chinese computational psychiatry network

- Discussed sample size calculation in EEG.

2022.07.11 - 2022.07.29 Neuromatch Academy (NMA) Deep Learning, online,

Organizer: Megan Peters, Phd, University of California, Irvine,

Achievement: Finished interactive track and course project

- Gained practical knowledge in implementing deep learning models and applying them to neuroscience datasets.
- Collaborated with a team to build a deep reinforcement learning model to model risky decision-making behaviors.

2021.09.04 - 2021.09.11 The 1st Computational Psychiatry Hackathon (CP-hack), online,

Organizer: Haiyang Geng, Phd, Chinese Computational Psychiatry Network,

Achievement: Placed 2nd in the hackathon

- Worked collaboratively to extend a reinforcement learning model and use DDM to explain impaired adaptation of learning to contingency volatility across anxiety and depression.

CONFERENCE PAPERS

Liu, Y. K., Yan, C. Y., & Hu, C.-P. (2024) Prediction modulates perception precision, The 4th Graduate Academic Forum Presentation on Decision and Cognitive Computational Neuroscience, East China Normal University, Shanghai, 2024. (Outstanding Oral Presentation Award)

Curriculum Vitae

- Liu Y.K., & Hu C.P. (2023)** Is CPP an ERP marker of evidence accumulation in perceptual decision-making? . A multiverse study, CogSci 2023 Shanghai Meetup, Shanghai, 2023.
- Liu Y.K., & Hu C.P. (2023)** The build-up rate of CPP reflects the speed of evidence accumulation in perceptual decision-making. A multiverse study, The 3rd Macau Symposium on Cognitive and Brain Sciences, Macau, 2023.
- Liu Y.K., & Hu C.P. (2022)** Cognitive Neural Mechanisms of Evidence Accumulation in Complex Perceptual Decision-making: Evidence from Behavior and EEG, The 24th National Academic Conference of Psychology, Henan, China, 2022.

AWARDS

Graduate National Scholarship	2024
Excellent Graduate	2024
Second-Class Graduate Academic Scholarship	2024
Second-Class Graduate Academic Scholarship	2023
First-Class Graduate Academic Scholarship	2022

SKILLS

Programming: Python, R

Lab: Psychophysics, EEG, fMRI, Computational model

Computational: Bayesian inference, Simulations, Model fitting/selection, Drift diffusion model, Reinforcement learning

Software: PyMC, MNE, Nilearn, Scikit-learn, PyTorch, PsychoPy, jsPsych

Interests: Guitar, Drawing, Musical