Ze Fu

Curriculum Vitae

Institut Jean Nicod, École Normale Supérieure – PSL
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https://ridiculousze.github.io/

Current Position

2025– **Postdoctoral Researcher**, *Institut Jean Nicod, École Normale Supérieure – PSL*, Paris, France
Supervisor: Prof. Nicolas Baumard
Fyssen Foundation Postdoctoral Study Grant (2025–2026)
Research areas: cultural evolution; semantic cognition; cognitive ecology; cross-linguistic and cross-cultural modeling; large-scale corpus and LLM-based analysis.

Education

2019–2025 **Ph.D., Psychology (Cognitive Neuroscience)**, *Beijing Normal University*, China, Advisor: Prof. Yanchao Bi
State Key Laboratory of Cognitive Neuroscience and Learning & IDG/McGovern Institute

2016–2017 **Visiting Student, Psychology**, *University of California, Berkeley*

2014–2019 **B.S., Psychology (Computer Science minor)**, *Central China Normal University*

Research Interests

- Cultural–historical dynamics of collective knowledge
- Cultural evolution and ecological adaptation
- Cross-linguistic universals and cultural variability

Publications and Manuscripts

First / Co-first Author

Under Review **Fu, Z.**, Chu, Y., Zhang, T., Li, Y., Wang, X., Bi, Y. *Semantics across the globe: A universal neurocognitive semantic structure adaptive to climate*.

2025 **Fu, Z.***, Chen, H.*, Liu, Z., Song, M., Liu, Z., Bi, Y. *Pathogen stress heightens sensorimotor dimensions in the human collective semantic space*. Communications Psychology, 3(2).

2023 **Fu, Z.**, Wang, X., Wang, X., Yang, H., Wang, J., Wei, T., Liao, X., Liu, Z., Chen, H., Bi, Y. *Different computational relations in language are captured by distinct brain systems*. Cerebral Cortex, 33(4).

Contributing Author

2024 Tian, S.*, Chen, L.*, Wang, X., Li, G., **Fu, Z.**, Ji, Y., Lu, J., Wang, X., Shan, S., Bi, Y. *Vision matters for shape representation*. Cortex.

2023 Tian, S., Chen, Y., **Fu, Z.**, Wang, X., Bi, Y. *Simple shape feature computation across modalities*. Cerebral Cortex.

In Prep You, X., **Fu, Z.**, Liu, Y., Bi, Y., Yu, X. *Word learning patterns in toddlerhood reflect semantic categorical organization*.

Talks & Conference Presentations

2025 ***Semantics across the globe***, *International Workshop on Cross-linguistic Databases and Norms*, Shanghai
Poster

2024 ***Representing historical cognition in language models***, *AI for Psychology Journal Club*, Tsinghua University
Oral

2024 ***Application of language models to semantic cognition***, *Lab Meeting*, Zhejiang University
Oral

2024 ***Semantics across the globe***, *Rovereto Workshop on Concepts, Actions, and Objects*, Trento, Italy
Poster

2023 ***Ecological drivers of cross-cultural semantic structures***, *Conceptual Brains and Cultural Evolution Workshop*, Zhuhai
Oral

2023 ***Pathogen stress heightens sensorimotor dimensions***, *Society for the Neurobiology of Language*, Marseille
Poster

2021 ***Graph and vector-embedding models***, *Society for the Neurobiology of Language*, Online
Slam

Research Experience

2018–2019 **Research Intern**, *State Key Laboratory of Cognitive Neuroscience and Learning, BNU*
Advisors: Prof. Xiaoying Wang, Prof. Yanchao Bi
Designed multimodal shape-perception experiments; collected drawings and sculpture data from congenitally blind participants; developed cross-modal computational pipelines.

Mentorship

2023–2024 **Undergraduate Thesis Supervision**, Supervised 3 theses (including Outstanding Thesis Award recipient).

2022–2024 **Research Training Programs**, Mentor for undergraduate research in the Innovation & Entrepreneurship Training Program.

Professional Service

Reviewer Imaging Neuroscience; Cognitive Neuropsychology; npj Science of Learning.

Co-review Nature Human Behaviour.

Honors & Awards

2023 Award for Research and Innovation, Beijing Normal University

2020–2023 Graduate Academic Award, Beijing Normal University

Technical Skills

Programming Python; R; MATLAB

Statistics Multilevel modeling; Network analysis; Time-series modeling; Large-scale corpus analysis

Methods fMRI; Cross-linguistic modeling; LLM-based semantic analysis; Online behavioral experiments

Languages Chinese (native), English (fluent), French (beginner)