

# Z.-H. Neuki Li

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## Education

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### Ph.D. in Psychology

*Area: Cognition and Cognitive Neuroscience; Advisor: Dr. Timothy T. Rogers*

*University of Wisconsin–Madison*

*January 2025 - In progress*

### Master of Science in Psychology

*Program: Data Science and Human Behavior*

*University of Wisconsin–Madison*

*September 2023 - December 2024*

### Bachelor of Science

*Major in Astronomy, Minor in Psychology*

*Nanjing University*

*September 2018 - June 2022*

## Research experience

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### Neural Fingerprints

*Computational Modeling*

*July 2024 - In progress*

*Madison, WI*

- Applying novel machine learning design to construct neural decoders capable of inclusively probing distributed and cross-subject variational neural representations in fMRI data
- Applying Knockoff technique targeted on false discovery control to enhance reliability and robustness of feature selection with high-dimensional data
- Parallelizing large-scale compute into lightweight jobs on HTC system

### RISK2 Project: Digital Phenotyping for Opioid Lapse Prediction

*Data Analysis*

*June 2024 - December 2024*

*Madison, WI*

- Data wrangling and cleaning, development of data processing functions adapted for project requirements
- Setting up customized pipelines for visualized data characterization
- Team-wise asynchronous collaboration and troubleshooting in data management and analysis

### Analysis of Quasi-periodic Oscillations in Gamma-ray Bursts

*Undergraduate Thesis*

*December 2021 - June 2022*

*Nanjing, Jiangsu, China*

- Performed time-series analysis on gamma-ray burst (GRB) data using Lomb-Scargle methods implemented in Stingray to detect quasi-periodic oscillations (QPOs) in Fermi GBM data
- Applied sliding window method to optimize signal detection and applied Monte Carlo simulations to estimate the false alarm probability of detected periodic signals
- Identified a statistically significant QPO signal in GRB 130310A with a frequency of 12.4 Hz

## Work experience

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### Research Assistant

*AI-Terrarium, UW-Madison*

*May 2025 - Present*

*Madison, WI*

- *PI:* Dr. Timothy T. Rogers, Dr. Dhavan Shah
- *Large-language model (LLM) Interaction*
- Applied social sentiments analysis on social media posting Data using NLP techniques

### Teaching Assistant

*PSYCH 752: Introduction to Applied Machine Learning*

*January 2025 - May 2025*

*Madison, WI*

- *Instructor:* Prof. John J. Curtin
- Leading weekly lab sessions, grading assignments and exams

**Research Assistant**

*School of Social and Behavioral Sciences, Nanjing University*

*September 2022 - June 2023*

*Nanjing, Jiangsu, China*

- *Supervisor: Prof. Dongmei Wang*
- *Psychological Counseling and Chinese Culture Lab*
- Applied social sentiments analysis on social media posting Data using NLP techniques

**Research Assistant**

*School of Astronomy and Space Science, Nanjing University*

*September 2022 - June 2023*

*Nanjing, Jiangsu, China*

- *Supervisor: Prof. Bin-bin Zhang*
- *Key Laboratory of Modern Astronomy and Astrophysics, Gamma-ray Burst Group*
- Performed time-series analysis on multiple gamma-ray burst (GRB) data
- Participated in data collection and lab discussion during event GRB 221009A
- Assisted PI to design and update device configuration and lab management system

**Research Assistant**

*School of Management and Engineering, Nanjing University*

*July 2021 - December 2021*

*Nanjing, Jiangsu, China*

- *Supervisor: Prof. Juan Li*
- *Human Behavior in Decision Making Group*
- Assisted the literature review and compilation of textbook of course Introduction of Cognitive Science
- Assisted subjects recruitment and data collection in behavioral experiment of decision-making tasks

***Awards and Recognitions***

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**Phi Kappa Phi Honor Society**

*University of Wisconsin-Madison*

*2024*

*Madison, WI*

**People's Scholarship**

*Nanjing University*

*2020 & 2019*

*Nanjing, Jiangsu, China*

**Nanjing University Excellence Scholarship**

*Nanjing University*

*2019*

*Nanjing, Jiangsu, China*