Z. Neuki Li

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Education

Master of Science in Psychology — *University of Wisconsin-Madison*
Program: Data Science and Human Behavior — *September 2023 - December 2024*

Bachelor of Science — *Nanjing University*
Major in Astronomy, Minor in Psychology — *September 2018 - June 2022*

Research experience

Neural Fingerprints Capstone Project — *July 2024 - December 2024*
Programming, Data Analysis and Team Management — *Madison, WI*

- Using R and Matlab with HTC system, applied machine learning techniques to conduct iterative voxel selection, decoding fMRI data in stimuli recognition tasks and carried out clustering on selected voxels to reveal inherent categorical response patterns across subjects
- Streamlined internal data processing pipelines, bridging imaging voxel-wise data to visually mappable data
- Led the group to organize progress documenting and reports, and managed scripts and data in Git-hub repository

RISK2 Project: Digital Phenotyping for Opioid Lapse Prediction — *June 2024 - December 2024*
Data Analysis and Programming — *Madison, WI*

- Carried out data wrangling and cleaning, developed data processing functions for project requirements in R
- Assisted in setting up a customized pipeline and implemented visualizations to characterize data of participants
- Supported troubleshooting and prepared regular progress updates, closely collaborating with the team using GitHub for asynchronous communication and version control

Analysis of Quasi-periodic Oscillations in Gamma-ray Bursts — *December 2021 - June 2022*
Undergradute Thesis — *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

Research Assistant — *September 2022 - June 2023*
School of Social and Behavioral Sciences, Nanjing University — *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 — *September 2022 - June 2023*
School of Astronomy and Space Science, Nanjing University — *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 *July 2021 - December 2021*
School of Management and Engineering, Nanjing University *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

Phi Kappa Phi Honor Society *2024*
University of Wisconsin-Madison *Madison, WI*

People's Scholarship *2020 & 2019*
Nanjing University *Nanjing, Jiangsu, China*

Nanjing University Excellence Scholarship *2019*
Nanjing University *Nanjing, Jiangsu, China*

Skills

Programming Toolkit	Python, R, Matlab, Shell, Web, LaTeX, HTC
Methods	Data Analysis, Machine Learning, Bayesian Statistics, Neural Networks Modeling, Behavioral Experimental Design, Data Visualization