

Z.-H. Neuki Li

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Education

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

Neural Fingerprints Capstone Project

Programming, Data Analysis and Team Management

July 2024 - December 2024

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

Data Analysis and Programming

June 2024 - December 2024

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

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

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

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

Skills

Programming Toolkit

Python, R, Matlab, Shell, Web, L^AT_EX, HTC

Methods

Data Analysis, Machine Learning, Bayesian Statistics, Neural Networks Modeling, Behavioral Experimental Design, Data Visualization