Lingyu Meng

L.Y._Meng@outlook.com
https://github.com/Lingyu-Meng

EDUCATION

09/2023 - 09/2024 **University of Sheffield**

MSc in Systems Neuroscience with Distinction (Ranked 1st in Cohort)

09/2017 - 07/2021 **Beijing Technology and Business University**

BSc in Statistics

SELECTED RESEARCH EXPERIENCE

11/2024 - Present Volunteer Research Assistant

University of Birmingham; Advisor: Prof. Lei Zhang; in collaboration with: Dr. Anne Saulin;

This project aims to investigate how empathy affects social learning and prosocial behaviour.

- Setting up experiment with PsychoPy
- Testing participants, collecting data

06/2024 - 08/2024 Master Student (Dissertation)

Individual difference in processing reward, loss, and uncertainty

University of Sheffield; Advisor: Dr. Hazem Toutounji, Dr. Alekhya Mandali

The primary aim of this research project is to investigate how individual differences in psychiatric traits, specifically anxiety, impulsivity, and intolerance of uncertainty influence decision-making strategies in the context of reward or loss. The study seeks to understand how these traits affect individuals' value-based decision-making behaviour and how they interact with each other. **I received a score of 81 for this dissertation, which is the highest grade in the UK grading system**. (GitHub)

- Built computational model to investigate the relationship of intolerance of uncertainty, impulsivity and exploration (Kalman filtering and GLMM)
- Deployed online experiment (2-armed bandit) on Gorilla
- Programmed analysis code (R and MATLAB) and performing data analysis
- Wrote up the manuscript
- Approved submissions and paid bonuses via Prolific

08/2022 - 04/2023 Full-Time Research Assistant

Beijing Normal University; Advisor: Prof. Yina Ma

This iEEG study aims to investigate the neural underpinning (synchronisation) of group decision making and bounding.

- Integrated MRI and CT to localise and label electrodes of intracranial electroencephalography (iEEG) by FieldTrip and FreeView
- Utilised LASSO, latent profile analysis (LPA), PCA to analysis behaviour pattern in inter-group conflicts
- Performed neural data cleaning, wavelet transform and time frequency analysis
- Utilised random forest to decoding economic games behaviour from neural data

06/2021 - 08/2022 Volunteer Research Assistant

The mechanism of leadership helping group survival from between group conflict

Beijing Normal University; Advisor: Prof. Yina Ma; in collaboration with: Dr. Hejing Zhang;
This study aims to establish a normative model to prove the leadership structure has advantage in terms of evolution.

- Conducted literature reviews on evolutionary games theory
- Programmed evolution models to investigate the role of leadership in inter-group conflicts using MATLAB

02/2021 - 06/2021 Undergraduate Student (Dissertation)

Using support vector machine to predict information anxiety of undergraduates

Beijing Technology and Business University; Advisor: Dr. Shuang li
This study uses questionnaires and machine learning to investigate information anxiety among college students. It measures various factors like gender, discipline, sleep health, and phone dependence. The data, analysed and modelled using support vector machines, reveals significant correlations, such as neuroticism and phone dependence with anxiety. The SVM prediction model shows 87.5% accuracy, demonstrating its effectiveness in predicting information anxiety.

- Handed out the questionnaires
- Programmed analysis code (R) and performed data analysis
- Wrote up the manuscript (in Chinese)

09/2019 - 10/2019 Part-Time Research Assistant

Beijing Normal University; PI: Prof. Xinlin Zhou; administered by Yuwei Hu

- Prepared questionnaires' items for measure mathematic ability of children

CONFERENCES

Toutounjin, H., Meng, L. & Mandali, A. (2025, Mar 27 - 30). *Individual difference in processing reward, loss, and uncertainty* [Submitted conference presentation abstract]. Computational and Systems Neuroscience 2025, Montreal, Quebec, Canada.

Meng, L., Mandali, A. & Toutounjin, H. (2024, Sep 13). *Individual difference in processing reward, loss, and uncertainty* [Poster presented]. the Computational Psychiatry Course, Zurich, Canton of Zurich, Switzerland. (poster)

Meng, L., Mandali, A. & Toutounjin, H. (2024, Jun 29). *Individual difference in processing reward, loss, and uncertainty* [Poster presented]. the Annual Conference of Postgraduate Taught, Sheffield, Yorkshire, United Kingdom. (poster)

Meng, L. (2024, Mar 25-28). *Neural Mechanisms Underlying the Enhanced Cooperation Induced by Multicultural Experience* [Poster presented]. the Society for Social Neuroscience Annual Meeting, Tsukuba, Ibaraki, Japan. (poster)

SELECTED TRAINING

16 - 27 /09/2024 Summer School

The Cognitive Neuroimaging Skills Training In Cambridge (COGNESTIC) 2024

MRC Cognition and Brain Sciences Unit, University of Cambridge, UK

07 - 14 /09/2024 Summer School

Computational Psychiatry Course (CPC) Zurich 2024

Translational Neuromodeling Unit, University of Zurich & ETH Zurich, Switzerland

26 - 30 /08/2024 Summer School

The Computational Neuroscience, Neurotechnology and Neuro-inspired AI (CN3)

Intelligent Systems Research Centre (ISRC), Ulster University, UK

31/7 - 03/08 /2024 Summer School

1st Computational Decision Neuroscience Summer School

Affiliated Mental Health Center, Zhejiang University School of Medicine, China

31/07/2024 Workshop

ECR workshops, UK Neural Computation 2024

University of Sheffield, UK

- Workshop on Grant Writing

OTHER RESEARCH EXPERIENCE

07/2024 - 08/2024 Volunteer Research Assistant

University of Sheffield; PI: Dr. Myles Jones; In collaboration with: Satwika Rahapsari

- Recruited adolescents participants and run experiment (EEG)

17/06/2024 Collaborator

AI Replication Games (A Big Team Science Project)

Project Leader: Dr. Abel Brodeur, Dr. David Valenta;

I collaborated with two assigned partners to reproduce the code of a published study.

11/2023 - 04/2024 Data Analysis and Visualisation

Remote collaboration fuses more citable ideas (Now)

- Re-analysed and visualised the data published in Nature and confirmed the presence of selection bias. In contrast to the original paper, I found that remote collaboration may exhibit higher quality. (Github)

Group discussion in a mock jury study

- Visualised the data published in Frontiers in Psychiatry. Using their data, we aim to show how deliberation moves people towards/award from judgements of guilt, and if this was a product of coming towards or away from the beliefs of the group they were in. (Github)

Dynamics of group discussion in agreement-error space

- Visualised the data published in Journal of Experimental Social Psychology. (Github)

AWARD

11/2024 SN Programme Prize (50 GBP)

The prize for the highest aggregate mark in the MSc Systems Neuroscience course for the 2023/24 cohort. (University of Sheffield)

03/2024 The Open Science Cash Prize (5000 JPY)

The prize for open science practices in the poster session. (The Society for Social Neuroscience)

SKILLS

Data Acquisition	**EEG, Online Experiment**
Data Analysis	**GLMM, SVM, Random Forest, Time Frequency Analysis, Reinforcement Learning, Latent Profile Analysis, LASSO**
Programming	**Proficient in Matlab, R, Python, Shell**
Software Skills	**FieldTrip, FreeSurfer, FSL, MNE, Gorilla, Prolific**