Tzu-Yao Lin

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I'm a committed, communicative, and team-oriented psychology graduate student who has a strong interest in Bayesian statistics and computational modeling of decision-making processes. I'm good at data analysis and programming. I'm always eager for new knowledge and willing to share what I have learned.

Education

Maastricht University   *Maastricht, The Netherlands*
Ph.D. student in Department of Methodology & Statistics   *October 2022–Present*

KU Leuven   *Leuven, Belgium*
Ph.D. student in Research Group of Quantitative Psychology and Individual Differences   *October 2022–Present*

National Taiwan University (NTU)   *Taipei, Taiwan*
M.S. in Psychology [Overall GPA: 4.02/4.30]   *September 2019–June 2022*

National Taiwan University   *Taipei, Taiwan*
B.S. in Psychology (major) and in Forestry and Resources Conservation (minor) [Overall GPA: 4.12/4.30]   *September 2014–June 2019*

Awards

Dean's Award
College of Science, National Taiwan University   *2022 & 2019*
- The top three of the class graduating for outstanding Master's research at the academic year 2021-2022
- The top 10% of the class graduating for outstanding scholastic achievement at the academic year 2018-2019

Professor Fa-Yu Cheng Memorial Scholarship
Department of Psychology, National Taiwan University   *2019*
- The top prize of undergraduate psychology students for outstanding academic performance at the academic year 2018-2019

Academic Excellence Award
Department of Psychology, National Taiwan University   *Spring 2017*
- Awarded to students ranking top 5% in the department in the semester

Department of Forest and Resources Conservation, National Taiwan University   *Spring 2015*
- Awarded to students ranking top 5% in the department in the semester

Conference Presentation

Lin, T.-Y. & Hsu, Y.-F. (2020) *Incorporating threshold theory into the cultural consensus theory for ordinal categorical data: A simulation study*   *Taipei, Taiwan*
The 8th Annual Academic Conference on Psychology at NTU
- Received the 3rd Outstanding Poster Award
- Poster: `https://xup6y3ul6.github.io/GCLKmodel_poster/poster.pdf`

Research Experience

Neural correlates of emotion as an arbitrator to reconcile the conflicts within dual-process in the context of decision making under risk

Prof. Yung-Fong Hsu

Research Assistant   *March 2021–Present*

- We studied the mechanism of dual-processing (heuristic and analytical) conflicts and the role of emotion when making a risky decision. I helped design the experiment of creating a 'Mixed Prospect Binary Lottery' to elicit the subject's utility functions and estimate the level of loss aversion.
- We will utilize PET-fMRI and MRS-fMRI, the state-of-the-art neuroimaging techniques, to examine the effects of neurotransmitter and BOLD signals in a risky situation.

The cultural consensus theory extends with the threshold theory: A study of ordinal categorical data analysis

Prof. Yung-Fong Hsu

Research Assistant   *August 2019–July 2020*

- We incorporated the Luce-Krantz threshold theory into cultural consensus theory to deal with ordinal categorical data. I axiomatized our new model and used the hierarchical Bayesian framwork for the inference.

From mind reading to mind sharing: A study on neural correlates of cognitive and affective Theory of Mind and their applications to salesforce enhancement

Prof. Heng-Chiang Huang

Research Assistant   *January 2018–December 2019*

- We want to know if a seller has greater abilities of cognitive and affective Theory of Mind will they have a better selling performance. We designed two different games to test those abilities of Theory of Mind with fMRI and MEG.
- I have played a critical role in this project by taking the initiative to learn Brainstorm (a MATLAB toolbox for M/EEG data analysis) and analyzing event-relative field and source estimation for our data. I also used the machine learning approach to classify the neural representation of numerosity (the set size of a group of items).

Coalition without trust: The intra-brain connectivity and inter-brain synchronization of herd behaviors in an economic bubble game

Prof. Yu-Ping Chen

Research Assistant   *January 2018–Present*

- We observed pairs of subjects' stock trading behaviors in a simulated economic bubble game. The breakthrough in this project was that we connected two MRI scan machines and simultaneously collected both subjects' BOLD signals.
- I learned the fMRI analysis, established the analytical procedure, and recorded tutoring videos for our research team.

Research of positive and negative memorable tourism experience

Prof. Chia-Pin Yu

Learning Assistant   *September 2016–January 2017*

- Assisted in data collection and qualitative interviews about the memorable tourism experience.

Characteristics of the evapotranspiration of a Japanese cedar forest in Xitou in Taiwan

Researcher Sophie Laplace

Research Assistant   *February 2015–January 2016*

- Assisted in collecting the evapotranspiration data of tree sap flow in the Xitou experimental forest.

Teaching Assistant

Fall 2021	PSY7001: **Experimental Design**	
Fall 2020	PSY7001: **Experimental Design**	
Spring 2020	PSY1004: **Statistics in Psychology and Education II**	*4.33/5.00*
Fall 2019	PSY1003: **Statistics in Psychology and Education I**	*4.40/5.00*

Graduate Level Statistics or Modeling Courses

Fall 2021	CSIE5043: **Machine Learning**	*A*
Spring 2021	MATH7610: **Multivariate Statistical Analysis**	*A+*
Fall 2020	PSY7277: **Neural and Behavioral Modeling**	*A+*
Fall 2020	MATH7606: **Regression Analysis**	*A*
Spring 2020	MATH7604: **Advanced Statistical Inference II**	*A-*
Fall 2019	MATH7603: **Advanced Statistical Inference I**	*B-*
Fall 2019	PSY7001: **Experimental Design**	*A+*
Fall 2019	CSIE2120: **Linear Algebra**	*A+*
Spring 2019	PSY5033: **Applied Linear Regression**	*A+*
Fall 2018	EPM5074: **Applied Bayesian Statistical Analysis**	*A*

Trainings

Statistical Teaching Assistant Training Course
Statistics Education Center, National Taiwan University

Taipei, Taiwan
2020

Functional Magnetic Resonance Imaging Training Course I
Imaging Center for Integrated Body, Mind and Culture Research, College of Science, National Taiwan University

Taipei, Taiwan
January 2019

Magnetoencephalography Training Course I
Imaging Center for Integrated Body, Mind and Culture Research, College of Science, National Taiwan University

Taipei, Taiwan
January 2019

Skills

Analytical
Statistical modeling, Computational modeling, Bayesian statistics, Neuroimage analysis (fMRI and MEG)

Programming
R (Tidyverse, R Markdown, and Shiny), JAGS, Stan, Python (PyTorch), MATLAB (SPM12 and Brainstorm), SAS, Linux

Tools
Git, GitHub, LaTeX

Extracurricular Activities

The 9th Taiwan National Fire Dance Competition 🔥
Leader and Choreographer

2017

National Taiwan University Fire Dance Club
Vice President

2016-2017

The 11th Presentation of National Taiwan University Fire Dance Club
Coordinator and Choreographer

2016

The 10th Presentation of National Taiwan University Fire Dance Club
Vice Coordinator and Choreographer

2016

Forest Summer Camp
Lecturer and Team Leader

2015, 2016

Forest Orientation Camp
Vice Coordinator

2015

National Taiwan University Student Association
Member of the Election and Recalling Execution Commission

2014-2015