

# Chih-Yuan Chang

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## EDUCATION and ADDITIONAL TRAINING

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**National Taiwan University (NTU)**

*Bachelor of Science in Bioenvironmental Systems Engineering (BSE) | double major in Psychology*

Taipei, Taiwan

Sep. 2019-

Jan. 2025(expected)

- GPA: 3.95 / 4.30
- Relevant coursework:
  - GPA: 4.25 / 4.30
  - Completed: Statistics, Calculus, Computer Application and Programming, Computer Programming in Python, Natural language processing, Artificial Neural Networks : Theory and Application, Data Analysis and Machine Learning with Python, Programming for Business Computing
  - In progress: Linear Algebra, Discrete Math, Data structure, Algorithm Design and Analysis
- College Student Research Scholarship, National Science and Technology Council, 2023
- Academic Achievement Award, 2020
- MOOCs: Machine Learning (NTU), Jan. 2023

## INTERNATIONAL JOURNAL PUBLICATIONS

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**Chang, C-Y. E.**, F-C B. Chou, W-T W. Lee, J-H Chang & P-H A. Chen. (In prep.). Unpacking the Anna Karenina Principle: Mental Representations of Friendships and their Impact on Well-Being.

**Chang, C-Y. E.**, V. H-C Liao, F-J Chang. (In prep.). Leveraging Deep Learning and Imputation Techniques for Accurate Water Quality.

## CONFERENCE PRESENTATIONS

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**Chang, C.-Y. E.**, Chou, F.-C. B., W-T W. Lee, J-H Chang & Chen, P.-H. A. (2024). Mental representations of friendships predict subjective well-being. Taiwanese Psychological Association Annual Meeting, Virtual Conference.

Chou, F.-C. B., Kuo, Y.-S. A., Chen, Y.-C. C., **Chang, C.-Y. E.**, & Chen, P.-H. A. (2024). From Opposing Views to Aligned Impressions: Shared Experiences Matter. Social & Neuroscience Society 2024 Annual Conference, Toronto, Canada.

Chou, F.-C. B., Chiu, T.-A. P., Hsiao, P.-Y. A., **Chang, C.-Y. E.**, & Chen, P.-H. A. (2024). Unraveling the neural representations of preference with a naturalistic neuroimaging approach. Cognitive Neuroscience Society 2024 Annual meeting, Toronto, Canada.

**Chang, C.-Y. E.**, Chou, F.-C. B., Chen, P.-H. A (2023). Exploring cross-domain text semantic similarity using large language models. Taiwanese Psychological Association Annual Meeting, Virtual Conference.

Chen, P.-H. A., **Chang, C.-Y. E.**, & Chou, F.-C. B. (2023). Exploring the impact of self-monitoring on neural representations of food cues: an intersubject representational similarity analysis approach. International Neuropsychological Society 2023 Conference, Taipei, Taiwan.

## RESEARCH EXPERIENCE

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**Computational Human-sociocultural Experimental Neuroscience Lab, NTU**

Taipei, Taiwan

*Research Assistant*, Department of Psychology | *Supervisor*: Prof. Ping Hao Chen

Jan. 2023 -Jan. 2025

- Collaborated on experimental design and data collection for studies on using behavioral, neural, and questionnaire data
- Conducted research using LLMs and NLP techniques to analyze dialogue text data, and processed fMRI data for neural analysis
- Applied statistical (ANOVA, linear regression, RSA, ISRSA, GLM, mixed-effects models) and machine learning methods (SVM, Random Forest, SVR, facial expression recognition) to analyze multi-modal datasets
- Mentored new lab members on experimental and data analysis methods
- Projects:
  - Exploring the Anna Karenina Principle in mental representations of friendships and well-being

- o Using verbal and non-verbal behaviors to predict interpersonal connections during dyadic face-to-face interaction
- o Exploring cross-domain text semantic similarity using large language models
- o The impact of self-monitoring on neural representations of food cues: an intersubject representational similarity analysis approach

### **Water Resources And Hydroinformatics System Lab, NTU**

Taipei, Taiwan

*Research Assistant*, Department of BSE | *Supervisor*: Prof. Fi John Chang

Sep. 2022-Aug. 2023

- Conducted data scraping and analysis of hydrological, climate, and geographical datasets using system analysis methods.
- Developed a deep learning-based multi-variate, multi-step prediction model for water quality forecasting, overcoming challenges related to prediction precision and high-frequency data collection.
- Contributed to water quality analysis in a groundwater research paper, and expanded research findings for the preparation of a manuscript submitted to an international journal.
- Projects:
  - o Leveraging Deep Learning and Imputation Techniques for Accurate Water Quality Predictions: Findings from Taipei Bridge
  - o Development of an Intelligent Decision Support System for Urban Flood Emergency Response

### **Internship**

#### **CAYIN TECHNOLOGY CO., LTD.**

Taipei, Taiwan

*Summer Intern*

July 2024-Aug. 2024

- Independently led the development of a project applying large language models and generative AI into the company's design interface
- Developed a web application demonstrating the use of generative AI to quickly generate high-quality ad copy and design templates for customers
- Collaborated with the R&D team to integrate this functionality into the company's software solutions

### **EXTRACURRICULAR ACTIVITIES**

*Captain*, Men's Basketball Team, Department of BSE, NTU

July 2021-June 2023

- Led the team to win two runner-up trophies in interdepartmental as well as national competitions.

*Keyboardist*, DayBreak Crammers

Jan. 2019-June 2023

- Best Live Performance Award, 38th NCCU Golden Melody Award, 2021

### **SKILLS**

Programming: Python, Java, MATLAB, C++, HTML, R

Language: Mandarin (native), English (fluent)