

# Honghui Chen

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**Research Interests:** AI for Psychology, Clinical Psychology, Machine Learning

## EDUCATION

**Central South University (The Second Xiangya Hospital of Central South University)** 09/2023-06/2026

**Degree:** Master of Education in **Psychology** GPA: **3.73/4.0**

- Second-class Academic Scholarship, Central South University 2024&2025

**Zhejiang University** 06/2025-07/2025

SDG Global Summer School, Department of Psychology and Behavioral Sciences

**Jiangsu University of Science and Technology** GPA:3.06/4/0 09/2016-06/2020

**Degree:** Bachelor of Management in **Information Management and Information Systems**

- Third-class Scholarship, Jiangsu University of Science and Technology (TOP 5%) 2019
- Third Prize, Central Region Group, 17<sup>th</sup> RoboMaster University Series 2018

## COMPUTER SKILLS

**Programming & Data Analysis:** R, Python, Mplus, Network Analysis, Machine learning

**Machine Learning & Large Model Development:** Machine Learning, Training and Fine-Tuning Large Models

## PEER-REVIEWED PUBLICATIONS

[1] **Chen, H.<sup>#</sup>**, Zhang, X., & Bian, W. (2024). Using machine learning to explore the predictors of life satisfaction trajectories in older adults. *Applied Psychology: Health and Well-Being*(IF=3.6), 16(4), 2190–2203. <https://doi.org/10.1111/aphw.12579>

[2] Zhang, Z., **Chen, H.<sup>#</sup>**, Ye, Y., Chen, H., Guo, H., & Zhou, J. (2025). Entropy-based risk network identification in adolescent self-injurious behavior using machine learning and network analysis. *Translational Psychiatry*, 15(1). <https://doi.org/10.1038/s41398-025-03511-3>

[3] Tang, H., Zhang, Z., **Chen, H.** et al. (2024). Core items selection and psychometric properties of the adult attention-deficit hyperactivity disorder self-report scale-Chinese short version (ASRS-CSV). *Asian Journal of Psychiatry*(IF=4.5), 99, 104136. <https://doi.org/10.1016/j.ajp.2024.104136>

[4] Yang, Q., Wang, Z., **Chen, H.** et al. (2024). PsychoGAT: A novel psychological measurement paradigm through interactive fiction games with LLM agents. In *Proceedings of the 62nd Annual Meeting of the Association for Computational Linguistics* (Volume 1: Long Papers) (pp.14470–14505). Association for Computational Linguistics. <https://doi.org/10.18653/v1/2024.acl-long>.

## MANUSCRIPTS IN PREPARATION

[1] Dong, D., **Chen, H.<sup>#</sup>**(n.d.). Unveiling the drivers of dependency on murder mystery games among youth: A machine learning approach. *Addictive Behaviours*. (Under review)

[2] Feng, Y, Li, M., **Chen, H.<sup>#</sup>**(n.d.). From rule-based to context-aware: Developing and validating a LLM-based multi-agent interview framework for psychiatric assessment. *Nature Mental Health*. (On the submission)

[3] **Chen, H.<sup>#</sup>**, Zhou,M.(n.d.). M. How does caregiver burden influence health outcomes in caregivers of adolescents with depression? The role of psychological resilience, hope, and perceived social support. *Archives of Psychiatric Nursing*. (Under review)

[4] **Chen, H.<sup>#</sup>**, Zhang, Z.(n.d.). Chronic disease multimorbidity and the risk of depressive symptoms among middle-aged and older adults: 10-year follow-up evidence from CHARLS. *Chinese Journal of Psychiatry*. (Under review)

## PRESENTATIONS

[1] **Chen, H.**, Artificial Intelligence in Psychological Measurement: Current Trends and Future Prospects. In *The Annual Conference of the Psychological Assessment Committee, Chinese Psychological Health Association*, 2025.

[2] **Chen, H.**, Identifying Online Network Signals of Adolescent Self-Harm: Entropy Modeling Based on Machine Learning and Network Analysis. In *The Third Scholar Forum on Quantitative Research Methods in Social Sciences*, 2025.

[3] **Chen, H.**, LLM Agents for Psychology: A Study on Gamified Assessments. In *Joint Forum on Psychology and Cognitive Science*, 2024.

**GRADUATE PROJECT**

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**LLM Agents for Psychology** 10/2023-Present

**Description:** *This project aims to develop a psychological measurement paradigm in the form of an interactive fiction game named PsychoGAT based on large language models, integrating psychological theories and multi-agent collaboration.*

- Selected appropriate psychological models and designing the psychological assessment framework in the platform development, refined the Depression and Cognitive Distortion measurement scales aligning to project needs
- Defined and validated the benchmarks for reliability and validity of the improved scales to ensure their stability and credibility
- Collected and organized data from participants for empirical validation, optimized the scale adjustment mechanism in the LLM agent to improve the accuracy and stability of the model based on performance feedback

**RESEARCH EXPERIENCE**

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**Research Assistant | Emohaa, CoAI Lab, Tsinghua University** 06/2024-04/2025

**Project:** Study of the Drivers of Dependency on Murder Mystery Games Among Youth

**Description:** *To develop a machine learning model to systematically identify the psychological and behavioral risk factors influencing young people’s dependence on Murder Mystery Games, with the goal of providing empirical support for related interventions.*

- Built the predictive machine learning model using R, trained it based on multi-dimensional psychological and behavioral data from 5,726 young participants, covering over 30 variables such as family factors, personality traits, and mental health
- Conducted feature importance analysis to identify key predictors influencing the targeted outcomes
- Optimized and fine-tuned the machine learning models to improve predictive performance

**Project:** LLM-based Multi-Agent Interview Framework for Psychiatric Assessment (MAGI)

**Description:** *This project aims to develop an LLM-based interview framework for psychiatric assessment, validating its potential as a low-cost, privacy-friendly solution for psychological screening.*

- Designed the four-phase validation data analysis process, including assessments with simulated and real participants
- Conducted reliability and validity analyses comparing MAGI assessment results with evaluations by psychological counselors and psychiatrists, utilizing R for data processing and statistical analysis

**Research Assistant | Psychiatry Department, The Second Xiangya Hospital of Central South University** 12/2023-07/2024

**Project:** Entropy-based Risk Network Identification in Adolescent Self-Injurious Behavior Using Machine Learning and Network Analysis

**Description:** *This project aims to develop a multi-factor risk prediction model for adolescent self-injury behavior (SIB) using machine learning, network analysis, and the Entropy Weight Method, integrating psychological, physiological, and social factors.*

- Collected data from fMRI experiments, managed experiment protocols and drafted project proposals
- Managed and analyzed collected data using Python and R, implemented statistical analyses and interpreted results

**PROFESSIONAL EXPERIENCE**

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**Intern of R&D | Pervasive Human Computer Interaction Laboratory , Tsinghua University** 07/2025-Present

**Project:** AI-Powered Health Monitoring System via Intelligent Ring and Agent

**Description:** *To develop wellness app for AI ring, integrating key features including AI-powered mental health assessment, guided mindfulness meditation, and personalized breathing exercises to enhance user well-being.*

- Defined product requirements and created interactive prototypes for a wearable-based emotional management agent

- Designed the system architecture and drafted PRD
- Planned and conducted user experiments to evaluate system efficacy, leading to validated design improvements

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Intern | **Psychological Counseling Clinic, The Second Xiangya Hospital of Central South University** 05/2024-05/2025

- Assisted in administering professional psychological assessments including MMPI, Hamilton Depression Scale, and Wechsler Intelligence Tests
- Observed clinical consultations to learn interview techniques, psychotropic medication protocols, and standard counseling procedures
- Supported outpatient operations through patient reception, queue management, and appointment notification