

Zeying TAO

Email: t_aotseying@sjtu.edu.cn | Mobile: (+86) 188 1766 2302 | ORCID: 0000-0001-9602-5226

EDUCATION

Shanghai Mental Health Center, Shanghai Jiao Tong University Aug. 2024 - Jun. 2027 (Expected)
Master of Medicine (M.Med.) in Psychiatry GPA: 3.73/4

Nanchang University Sep. 2019 - Jun. 2024
Bachelor of Medicine (M.B.) in Clinical Medicine GPA: 3.69/4 (Top 5%)

RESEARCH INTEREST

- Cognitive and neurobiological mechanisms of schizophrenia-spectrum disorders, particularly clinical high-risk states, psychosis conversion, and the heterogeneity of psychotic symptoms and cognitive dysfunction.
- Multimodal neuroimaging investigation of affective and cognitive mechanisms in psychiatric disorders using structural, resting-state, and task-based MRI, with an emphasis on hippocampal circuits, large-scale brain networks, and brain-behavior relationships.
- Development of computationally informed and mechanism-based approaches to psychiatric heterogeneity, including interpretable modeling of clinical and neuroimaging data and image-guided neuromodulation strategies for improving cognitive and clinical outcomes.

PUBLICATIONS

- **[Published]** Tao Z, Wang S, *et al.* Research progress on morphological abnormalities of brain sulci in mental illnesses, *Chinese Journal of Psychiatry*, 2026, DOI: 10.3760/cma.j.cn113661-20250411-00173.
- **[Conference abstract/poster]** Song J, Tao Z, *et al.* “Gradient-Based Machine Learning Reveals Biomarkers of Auditory Hallucinations in Schizophrenia [Abstract].” OHBM 2026, Poster No. 1848; OHBM 2026 Annual Meeting Abstract Book, 2026, 4507-4509. doi:10.5281/zenodo.20817576.

Manuscripts Under Review

- Tao Z*, Song J*, Wang S*, *et al.* Whole-Brain Sulcal Morphology Identifies Psychosis Conversion Among Clinical High-Risk Individuals, 2026.
- Song J*, Tao Z*, Chen X, Xu Y, Hallucination Severity Is Associated With Interface-versus-External Expression Along a Normative Structural Hierarchy, 2026.
- Zhu T*, Song J*, Kong G*, Tao Z, *et al.* Imaging-transcriptomic decoding of altered cingulate functional gradients in major depressive disorder, 2026.

*Co-first authors.

RESEARCH EXPERIENCE

Shanghai Mental Health Center (SMHC), Shanghai Jiao Tong University

Master Student, Supervisors: Prof. Yingying Tang

Neuroimaging-Based Prediction of Psychosis Conversion in Clinical High-Risk Individuals Using Cortical Sulcal Morphology (Co-led Project · In Progress) Oct. 2024 - Present

- Performed fine-grained cortical sulcal segmentation using BrainVISA and extracted high-resolution morphometric features from structural MRI, including sulcal depth, length, and geometric properties.
- Applied machine learning and statistical analyses to identify sulcal morphological features associated with subsequent conversion to psychosis.

Left Posterior Hippocampus-Targeted tFUS for Visuospatial Memory modulation in Major Depressive Disorder (Led Project · Pilot Study in Progress) Nov. 2025 - Present

- Designed and implemented a pilot transcranial focused ultrasound (tFUS) intervention study targeting the left posterior hippocampus to investigate its effects on visuospatial memory and depressive symptoms.
- Conducted image-guided target localization and TUS administration, gaining hands-on experience in individualized neuromodulation procedures.
- Conducted preprocessing and task-based fMRI analyses in SPM, including both first-level and group-level modeling to characterize intervention-related changes in neural activation.

Multimodal MRI Investigation of Symptom-Related Brain Mechanisms in First-Episode Schizophrenia (Ongoing Data Analysis) Dec. 2025 - Present

- Analyzing an existing task-based fMRI dataset from the Mnemonic Similarity Task (MST) to examine hippocampal subregion activity related to pattern separation in schizophrenia.
- Analyzing structural and resting-state MRI data from patients with first-episode schizophrenia and healthy controls to characterize disease-related brain alterations.
- Exploring hippocampal circuit-level and whole-brain network measures to characterize how subregion activity may relate to broader cortical organization.

CERTIFICATIONS & HONORS

- First-Class Academic Scholarship, Shanghai Mental Health Center 2024,2025

SKILLS

- **Programming Languages:** Python / MATLAB / R
- **Neuroimaging Research Skills:** Task-based fMRI, resting-state fMRI, and structural MRI analysis using FreeSurfer, SPM, and FSL; TMS & TUS & TIS operation; psychological scale administration; structured clinical interviews
- **Language:** English(IELTS 7.0; Listening 7.0, Reading 8.5, Writing 6.0, Speaking 6.0)