Tianze Xu

tianze.xu@uzh.ch | tmthx.github.io
AND 2.76, Andreasstrasse 15, 8050 Zurich, Switzerland

Education

Aug 2025–Jul 2028 **PhD in Computational Linguistics and Phonetics**
University of Zurich (UZH), Switzerland
- Supervisors: Professor Dr Volker Dellwo, Dr Elisa Pellegrino, & Professor Pascal Belin (Aix-Marseille University)
- Project: *Attention to vocal identity cues*

Oct 2024–Jun 2025 **MPhil in Theoretical and Applied Linguistics**
University of Cambridge, United Kingdom
- Supervisor: Dr Kirsty McDougall
- Grade: Distinction (84%)
- Dissertation (87%): *Perceived voice similarity within and across languages: A study of Cantonese–English bilingual speakers*

Sep 2020–Jun 2024 **BA in Language Science & Honours Programme in International Organisation Studies**
Shanghai International Studies University (SISU), China
- Supervisor: Professor Xiaoming Jiang
- Cumulative GPA: 3.95/4
- Thesis (95%): *Is thematic role assignment syntactic or semantic in nature? Evidence from computational modelling on naturalistic fMRI*

Funding & Awards

Aug 2025–Jul 2028 **Marie Skłodowska-Curie Actions Doctoral Networks Grant, Horizon Europe**
European Commission &
State Secretariat for Education, Research and Innovation (SERI) of Switzerland
- Amount: £251,678
- Project: *Attention to vocal identity cues* (part of *Voice Communication Sciences*, #101168998)

Dec 2024–Jun 2025 **Postgraduate Travel and Research Grant**
Christ's College, University of Cambridge
- Amount: £1,650

Jun 2024 **First Class Honours Scholarship**
Shanghai International Studies University
- Amount: CN¥ 50,000 (£5,550)

Sep 2020–Apr 2024 **National Undergraduate Training Programme for Innovation and Entrepreneurship Grant**
Ministry of Education of China
- Amount: CN¥ 18,400 (£2,050)
- Project: *Predicting voice discrimination ability from EEG signals* (#202310271021)

Mar 2021–Mar 2024 **Outstanding Student Awards & Scholarships**
Shanghai International Studies University
- Amount: CN¥ 8,800 (£980)

Oct 2023 **Honours College Overseas Exchange Scholarship**
Shanghai International Studies University
- Amount: CN¥ 10,000 (£1,120)

Aug 2023 **Korea University Global e-School Programme Scholarship**
Korea Foundation, Ministry of Foreign Affairs of South Korea
- Amount: US$ 2,850 (£2,150)

Publications

Xu, T. (2025). A critical review of voice-space models. *Cambridge Occasional Papers in Linguistics*, *17*, 22–36. https://www.mmll.cam.ac.uk/sites/default/files/v17_xu.pdf

Xu, T., Jiang, X., Zhang, P., & Wang, A. (2025). Introducing the Sisu Voice Matching Test (SVMT): A novel tool for assessing voice discrimination in Chinese. *Behavior Research Methods*, *57*(3), Article 86. https://doi.org/10.3758/s13428-025-02608-3

Xu, T., Li, J., & Jiang, X. (2025). Semantic processing of argument structure during naturalistic story listening: Evidence from computational modeling on fMRI. *NeuroImage*, *314*, Article 121253. https://doi.org/10.1016/j.neuroimage.2025.121253

Conferences

Xu, T., Li, J., & Jiang, X. (2025, April 18). *Semantic processing of argument structure during naturalistic story listening: Evidence from computational modeling on fMRI* [Paper presentation]. The Sixth Annual Emory Undergraduate Linguistics Conference.

Xu, T., Li, J., & Jiang, X. (2025, June 19–20). *Semantic processing of argument structure during naturalistic story listening: Evidence from computational modeling on fMRI* [Poster session]. 19th Lancaster Linguistics and English Language Postgraduate Conference, Lancaster, United Kingdom.

Research Experience

Jan 2025–Jun 2025 **Perceived voice similarity in Cantonese–English bilinguals**
Lead Researcher (Supervisor: Dr Kirsty McDougall, Cambridge)
- Conducted principal component analysis (PCA) on acoustic features to examine biological, linguistic, and individual influences on voice variation
- Designed a perceptual experiment with multidimensional scaling (MDS) to examine cross-language voice similarity, with implications for forensics, machine recognition, and synthesis

Jan 2025–Present **Acoustic factors shaping voice similarity at different linguistic levels**
Lead Researcher (Supervisor: Professor Xiaoming Jiang, SISU)
- Applied multiple machine learning algorithms (e.g., logistic regression, decision tree, random forest) to examine how acoustic factors influence voice similarity at word and sentence levels
- Refined understanding of voice variability by reviewing voice-space models and emphasising both cross- and within-speaker variations

Jun 2024–Present **Predicting voice discrimination ability from EEG signals**
Researcher (Supervisor: Professor Xiaoming Jiang, SISU)
- Constructed predictive models of human voice discrimination ability using resting-state EEG signals, based on data from 50 participants

Sep 2023– May 2025 **Neural processing of argument structure: Computational modelling on fMRI**
Lead Researcher (Supervisor: Professor Xiaoming Jiang, SISU)
- Implemented integrative neurocomputational modelling on naturalistic fMRI data to engage with theoretical debates on argument structure processing (separationism vs. projectionism)
- Employed general linear model (GLM) and representational similarity analysis (RSA) to assess the neural fit of rule-based and neural-network models from natural language processing (NLP)
- Identified neural correlates of argument structure processing, contributing to the understanding of semantic versus syntactic influences on this process

Jun 2022– Jan 2025 **Developing the Sisu Voice Matching Test (SVMT)**
Lead Researcher (Supervisor: Professor Xiaoming Jiang, SISU)
- Developed the SVMT, the first Chinese-based voice perception assessment, processing and analysing 1,600+ minutes of speech from 160 speakers using Praat
- Conceptualised and implemented an advanced acoustic analysis strategy using 3D voice space to pair speakers based on voice similarity, enabling precise test item construction
- Arranged 456 participants for 3 rounds of behavioural experiments and applied statistical analyses (e.g., item response theory, Bayesian linear modelling) to establish and validate the SVMT

Work Experience

Oct 2023– Oct 2024 **Data Research Intern**
World Arthistory Institute, SISU, Shanghai, China
- Initiated an analysis of 40 digital art terms based on 1,700+ articles (2019–2023) using computational techniques (e.g., named entity recognition)
- Resolved text-image linking problem in the *Han Art Terminology and Image Database* by designing an innovative term classification system based on phrase structures

Jul 2024– Sep 2024 **Speech AI Research Intern**
StarQuest Technology, Shanghai, China
- Oversaw the annotation of 500+ minutes of English and Chinese audio data and 11,000+ sound effect files, enhancing accuracy by 27% through refined guidelines
- Undertook extensive research on AI hallucinations, summarised 4 common error types, and provided suggestions for efficient machine-human interaction

Mar 2023– Jun 2024 **Research Assistant**
Interdisciplinary Language Lab, SISU, Shanghai, China
- Managed experimental stimuli, participant recruitment, and data collection, curation, and analysis for behavioural, eye-tracking, EEG, and fMRI experiments

Sep 2023– Jan 2024 **Teaching Assistant**
Institute of Language Sciences, SISU, Shanghai, China
- Facilitated Logic and Syntax lectures for 49 undergraduate and postgraduate students, implementing structured feedback analysis to enhance course delivery

Service

Oct 2024– Jun 2025 **Member & Linguistics Olympiad Assessor**
Cambridge University Linguistics Society, United Kingdom

Skills & Languages

Research & Data Analysis

- Python, R, MATLAB, and SPSS Statistics for statistical analysis and data visualisation
- Praat, VoiceSauce, and Adobe Audition for speech recording, processing, and acoustic analysis
- Natural language processing (NLP) and computational linguistics techniques
- Surveys, interviews, and behavioural, eye-tracking, EEG, and fMRI experiments

Languages

- Chinese: Mandarin (native), Wu (native), Cantonese (native)
- English (IELTS Academic Band 8), Japanese (basic), Korean (basic)