

# ZIXUAN (MAXINE) JIA [tsi3 ɕʌn1 tɛja3]

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## EDUCATIONAL BACKGROUND

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**University of Edinburgh, MSc in Phonetics (graduated with Merit)** **09/2021-11/2022**

- Dissertation title: “Test for Mandarin Rhythmic Performance: A Borrow from Typewriting”  
Advisor: Prof. Alice Turk; Dr. Bert Remijisen
- **Relevant Courses:** Speech Production and Perception; Linguistic Fieldwork and Language Description; Introduction to Phonetics and Phonology; Language Variation and Change; Statistics and Experimental Design; Phonetics and Laboratory Phonology; Online Experiments for Language Scientists

**Minzu University of China (985&211), BA in Chinese Language and Literature** **09/2017-06/2021**

- **GPA:** 3.78/5.00; 87.8/100
- **Relevant Courses:** Chinese Phonetics (94); Chinese Grammar (95); Chinese Lexicology (91); Introduction to Linguistics (83); Modern Chinese Language (91); Ancient Chinese Language (96)

**Leiden University, Summer school** **07/2021-08/2021**

- **Relevant Courses:** Introduction to Phonetics; Elan, Praat, and FLEx; Historical Linguistics

## RESEARCH PROJECTS

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**Test for Mandarin Rhythmic Performance: A Borrow from Typewriting** **05/2022-08/2022**

*Supervised by Prof. Alice Turk*

- **Experiment Preparation:** Recruited 10 Mandarin native speakers to read 3 materials (repeated syllable “ba”, 100 phrase list, and prose) at slow and fast rates; segmented the syllabic intervals and annotated them as “s”; elicited the intervals by Praat scripting
- **Methodology:** Calculated four rhythm metrics ( $\Delta S$ ,  $\text{varco}\Delta S$ ,  $rPVI-S$ , and  $nPVI-S$ ) at slow vs. fast rates among 3 materials, making boxplots in R to show the distribution; calculated autocorrelation function between two successive intervals
- **Statistical analysis:** Applied two-way ANOVAs to test the effect of speech rate and material type on rhythm metrics; employed time-series analysis to test the significance of ACF value at lag one
- **Conclusion:** Concluded that speech timing can accord with typewriting pattern, since  $nPVI-S$  significantly showed lower value at slow rates in contrast to fast rates and significant negative ACF values occur at 58 conditions (60 conditions totally)

**Acoustic Correlates among tone, vowel quality, and voice quality in Dinka** **11/2021-12/2021**

*supervised by Dr. Bert Remijisen*

- **Praat Script:** Wrote a Praat script to elicit parameters from 104 isolated Dinka words, including duration, F0, formant, spectral tilt
- **Data analysis:** Plotted boxplots of four spectral tilts (H1-H2, H1-A2, H1-A3, spectral emphasis) at two tonemes within breathy and modal voice; computed scatter plot with linear fit to show the relationship between formants and spectral tilts
- **Statistical analysis:** Applied ANOVA to test the effect of tone and phonation on spectral tilt; applied linear model to test the significance of correlates between formant and spectral tilts

**A Comparison of Two Training Methods for English Learning: Listening and Repeat (LAR) and Repetitive and Simultaneous Imitation (RSI)** **01/2022-present**

*supervised by Prof. Bei Wang*

- **Corpus design:** Designed 12 English phrases for training with two stress patterns (“SuSu” and “SuuS”) within the same “rising-falling-rising-falling” intonation contour
- **Training:** Recruited and Trained 43 participants (21 for LAR group; 22 for RSI group) to finish 4 tasks within 2 months, including pre-test, imitation task, training for 25 days in an APP, post-test
- **Data analysis:** Made boxplots and scatter plots in R to compare the intonation contours, syllable duration, and F0 related parameters using LAR and RSI in 4 tasks; Applied linear mixed model to test effects

## WORK EXPERIENCE

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**Research Assistant, Hong Kong Polytechnic University, Hong Kong** **11/2023-present**

- **Website construction:** constructed the CILME website by using EWCMS system

**Research Assistant, Chinese Academy of Social Science (CASS), Beijing** **02/2023-11/2023**

Project 1: Investigating how human brain focuses on target sound when blocking interfering sound

- **Experiment design:** Fixed 5 directions of audios for playing sounds, and arranged 2 audios each time to play target sound and distracted sound; Required participants to answer questions related to target sounds
- **Experiment preparation:** Recruited 30 participants for the experiment; Worn EEG hats for participants
- **Data analysis:** Calculated the accuracy under different combination directions of sounds; Applied ANOVAs to test the effect of reaction time, sound direction, and sound gender on accuracy; EEG preprocessing

Project 2: Acquisition of Rhotics by Chinese Children Aged 4-6

- **Data annotation:** Wrote Praat script for automatic annotation on vowels and consonants; Modified the boundary of phonemes manually
- **Literature review:** Conducted literature review about acquisition of rhotics in different languages

Project 3: Cognitive Mechanisms of Mandarin Rhetorical Questions and Responses

- **Corpus design:** Design 160 interrogative sentences (80 for each type) as reading materials; Wrote scenarios of interrogative sentences to allow participants to interpret the interrogative sentences in that context

## SKILLS & CERTIFICATES

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- **Language Skills:** Mandarin (native), English (professional) and Indonesian (beginner)
- **IELTS (7.0):** Listening (7.5), Reading (7.5), Writing (6.0) and Speaking (6.0)
- **Software:** R (linear mixed model, ANOVA, time-series analysis, etc.), Praat (annotation, scripting, synthesis, perception experiment), JavaScript (middle level), Python, EEGlab

## AWARDS

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- 2<sup>nd</sup> Scholarship for Academic Excellence (2017 – 2018) 1200 RMB
- 2<sup>nd</sup> Scholarship for Academic Excellence (2019 – 2020) 1200 RMB
- Excellent Undergraduate Thesis with Distinction (2021)