

Xiaomeng (Miranda) Zhu

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xiaomeng-zhu.github.io

- EDUCATION** **Yale University**, New Haven, CT Sep 2023 -
Ph.D. Student in Linguistics
- Wellesley College**, Wellesley, MA May 2023
Bachelor of Arts in Cognitive and Linguistic Sciences and Computer Science
Honors: Summa cum laude
Thesis: The Modified Mother Tongue: Examining Chinese Vowel Quality Shift in Chinese-Dominant Chinese-English Code-Switching Environments
- Massachusetts Institute of Technology**, Cambridge, MA
Cross-registered Student
- PUBLICATIONS** Meng Hui Liu*, **Xiaomeng Zhu***, and Carolyn Jane Anderson, XiaoshuoNLP: A Natural Language Processing Pipeline for Chinese Literary Texts (In Progress)
- RESEARCH EXPERIENCE** **Science Center Summer Research Program** May 2022 - Present
Advisor: Carolyn Anderson Wellesley, MA
Implement an NLP pipeline for processing Chinese literary texts, enhance the accuracy of coreference resolution results by merging character clusters based on BERT embeddings, and evaluate existing Chinese NLP tools on an original literary dataset
- Cognitive and Linguistic Sciences Honors Thesis** May 2022 - May 2023
Advisor: Angela Carpenter Wellesley, MA
Examine the shift in Chinese vowel quality in Chinese-English insertional code-switching environments, design speech production tasks to elicit code-switched speech from subjects, and run statistical models on collected vowel formants
- Wellesley College Sociolinguistics Lab** Feb 2022 - Aug 2022
Advisor: Sabriya Fisher Wellesley, MA
Designed and implemented a Python script that extracts morphosyntactic features from texts, examined the frequency distribution of phonetically-similar auxiliaries, and coded phonetic data from the CORAAL corpus
- MIT Experimental Syntax and Semantics Lab** Feb 2021 - May 2022
Faculty Advisor: Martin Hackl, Direct Advisor: Leo Rosenstein Cambridge, MA
Investigated felicity differences between determiners using an experimental approach, implemented experimental interface on PCIBex, analyzed data in R Studio using a mixed-effect model, and assisted with data interpretation
- MIT Department of Linguistics** Dec 2021 - Mar 2022
Advisor: Danfeng Wu Cambridge, MA
Conducted in-person experiments with participants to examine the prosodic pattern in either/or constructions, monitored subjects' behavior and recording qualities, and annotated recording files to facilitate prosody extraction
- MIT Media Lab** Jun 2020 - Aug 2020
Faculty Advisor: Alex Pentland, Direct Advisor: Mohsen Bahrami Cambridge, MA
Implemented an interactive dashboard that visualized mobility behavior and economic growth using react.js
- PRESENTATION** **The Modified Mother Tongue: Examining Chinese Vowel Quality Shift in Chinese-Dominant Chinese-English Code-Switching Environments**
Ruhlman Conference, Wellesley College April 2022

*Equal contribution

	XiaoshuoNLP: A Natural Language Processing Pipeline for Chinese Literary Texts	
	<i>Ruhlman Conference Poster Session, Wellesley College</i>	April 2022
	<i>Tanner Conference, Wellesley College</i>	Nov 2022
	<i>Wellesley College Science Complex Opening Celebration Poster Session</i>	Oct 2022
	<i>Wellesley College Science Center Summer Research Program Poster Fair</i>	Aug 2022
TEACHING EXPERIENCE	CS 240: Foundations of Computer Systems	Spring 2022, Fall 2022
	Teaching Assistant	Wellesley College
	<i>Instructor: Andrew Davis, Franklyn Turbak</i>	
	CS 204: Front-End Web Development	Term 2, Fall 2020
	Teaching Assistant	Wellesley College
	<i>Instructor: Scott Anderson</i>	
AWARDS & ACADEMIC HONORS	Sigma Xi	May 2023
	Phi Beta Kappa	May 2023
	Provost's Office Student Research Grant, Wellesley College	Dec 2022
CLASS PROJECTS	Whisper Fine-tuning Event	Fall 2022
	<i>CS 333: Natural Language Processing</i>	
	Fine-tuned the pre-trained Automatic Speech Recognition model Whisper on the Common Voice dataset for Taiwanese Mandarin	
	Syntactic Tense in Mandarin Chinese	Fall 2021
	<i>LING 244: Language: Form and Meaning</i>	
	Analyzed main issues of controversy regarding the existence of a syntactic T node in Mandarin Chinese and proposed a theory where tense is undefined in the deep structure	
	Phonetics and Phonology of Korean	Spring 2021
	<i>LING 240: The Sounds of Language</i>	
	Designed and held recording sessions with a native Korean speaker to examine Korean phonetics and phonology, analyzed waveforms and spectrograms in Praat, and validated results against existing theories	
	Social Variation of Words and Sounds in American Dialect	Fall 2020
	<i>LING 238: Sociolinguistics</i>	
	Evaluated social variation patterns of words and phonemes in North American English, identified dialect regions using isoglosses, and verified results against William Labov's first principle on language change	
INDUSTRY EXPERIENCE	Shanghai Baosight Software Co., Ltd.	Jun 2021 - Aug 2021
	Machine Learning Intern	Shanghai, China
	Analyzed and predicted steel defects using machine learning algorithms such as decision tree, clustering, and PCA	
LANGUAGES AND TECHNICAL SKILLS	Programming Languages: Python, R, C, Java, Racket, SML	
	Web Development: HTML, CSS, JavaScript, React.js	
	Machine Learning: TensorFlow, PyTorch	
	Software: Praat, Audacity	
	Languages: English and Mandarin Chinese (native proficiency), Spanish (working proficiency)	