George Gao

Linguist | Speech Analyst | PhD

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📍 Fairfax, VA

Detail-oriented Speech Analyst with hands-on experience performing laboratory work on non-native English speech. Highly proficient in conducting behavior experiments, providing computational research support and analyzing acoustic and textual speech data with R or Python.

💼 PROFESSIONAL EXPERIENCE

Aug. 2018
Aug. 2017

Team member | Multidisciplinary University Research Initiative, GEORGE MASON UNIVERSITY, Fairfax, VA
> **Project :** Machine Learning for Crowdsourced Phonetic Transcription/Identification of Accented Speech
> Annotated a speech corpus consisting of more than 3000 audio speech samples using Deep Learning techniques
> Analyzed statistical data using generative and discriminative models
> Presented results at academic conferences
> Techniques implemented :

Mixed-effects models | Praat-scripting | Audio-segmentation algorithms

Aug. 2016
Aug. 2013

Graduate Research Assistant, GEORGE MASON UNIVERSITY, Fairfax, VA
> Advocated, planned, and conducted experiments on crowdsourcing platform Amazon Mechanical Turk.
> Assisted faculty members with data collection via speech processing software.
> Investigated effects of psycholinguistic biases on different syntactic and semantic structures.
> Investigated effects of psycholinguistic biases on prosodic structures in human. speech.
> Skills developed :

Experimental Design | Speech Data Analysis | R | Python | JavaScript

Jun. 2013
Jul. 2012

Mandarin Teacher, THE INTERNATIONAL CENTER FOR LANGUAGE STUDIES, Washington D.C.
> Provided intermediate-level Mandarin classes to U.S. government employees.
> Created lesson materials, visuals and digital presentations to supplement lesson plans.
> Helped students prepare for the Foreign Service Officer Language tests.

🎓 EDUCATION

Dec. 2019   **PhD in Linguistics**, George Mason University, Fairfax, VA
May. 2012   **MA in English**, George Mason University, Fairfax, VA
Aug. 2009   **BA in Chinese**, Soochow University, Suzhou, China
Aug. 2009   **BA in Economics**, Soochow University, Suzhou, China

📖 PUBLICATIONS

2019   **Dissertation :** Weighing Phonetic Patterns in Non-Native English Speech
2018   Li, Xianzhou, & **Gao, Zhiyan**. The effect of language experience on lexical tone perception. *The Journal of the Acoustical Society of America*, 144(3)
2018   **Gao, Zhiyan** & Weinberger, Steven. Which phonetic features should pronunciation Instructions focus on ? An evaluation on the accentedness of segmental/syllable errors in L2 speech. *Research in Languages*, 16(2)
2016   **Gao, Zhiyan** Prosody-Morphosyntax Interaction in the Production of Mandarin Disyllabic Structures. *Linguistic Society of America Annual Meeting*
2016   Morrill,Tuuli. & **Gao, Zhiyan**.Discriminability of non-native tonal contours in low-pass filtered speech. *The Journal of the Acoustical Society of America*,138(4)

☰ SKILLS

Programming	Python, R, Javascript
Text-editing	LaTex, Markdown
Audio-processing	PRAAT
Web Design	HTML, CSS
Others	AWS CLI for Amazon Mechanical Turk

🎓 HONORS AND AWARDS

2019, GMU	Dissertation Research Grant : $ 5000
2014, 2016, GMU	Summer Assistantship Grants : $16000
2013, GMU	Presidential Scholarship : full tuition waiver, monthly stipends

🖥 PROJECTS

1. AUTOMATING FOREIGN ACCENT PERCEPTION   WITH DR. STEVEN WEINBERGER

A computational model approximating human perception of the degree of foreign accentedness in non-native English speech. **A web application** was build for demonstration.

2. CROWD-SOURCING TOOLS FOR PHONETIC TRANSCRIPTIONS   WITH DRS. STEVEN WEINBERGER, JILL NELSON & STEVEN KUNATH

A web interface that allows a great number of people to transcribe short English utterances. The tool itself facilitates the learning of phonetics symbols. The differences and similarities between transcribers provide great insights into speech perception.

3. COMPARISONS BETWEEN MIDDLE CHINESE AND NANTONG CHINESE

A web application comparing phonological differences between the 7th century Middle Chinese and the modern day Nantong Chinese.