

Department of Linguistics
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Jian ZHU

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Education

- 2017–Present **Ph.D. in Linguistics**, *University of Michigan-Ann Arbor*.
Advisors Patrice Beddor & David Jurgens
- 2019–Present **Joint Ph.D. in Scientific Computing**, *University of Michigan-Ann Arbor*.
2014–2017 **M.A. in Linguistics and Applied Linguistics**, *Beijing Foreign Studies University*.
2010–2014 **B.A. in Translation and Interpreting**, *Beijing Foreign Studies University*.

Research

A list of papers can also be found on [Google Scholar](#).

Interests

- Broad computational sociolinguistics & natural language processing, speech processing & phonetics
- Narrow sociolinguistic variation and change in online communities, sociolinguistics of multi-modal interaction, socially aware NLP, semi-supervised/unsupervised phone segmentation, speech prosody, ultrasound tongue imaging

Peer-Reviewed Journal Articles

- 2016 **Zhu, Jian.** & Chen, Yaping. Effect of several acoustic cues on perceiving Mandarin retroflex affricates and fricatives in continuous speech. *The Journal of the Acoustical Society of America*. [<https://doi.org/10.1121/1.4955311>]

Refereed Conference Proceedings

- 2021 **Zhu, Jian** & Jurgens, David. Idiosyncratic but not Arbitrary: Learning Idiolects in Online Registers Reveals Distinctive yet Consistent Individual Styles. *Proceedings of the 2021 Conference on Empirical Methods in Natural Language Processing (EMNLP)*. [Oral Paper]
- 2021 Zhang, Cong & **Zhu, Jian**. Synchronising speech segments with musical beats in Mandarin and English singing. *Proceedings of Interspeech 2021*.

- 2021 **Zhu, Jian** & Jurgens, David . The structure of online social networks modulates the rate of lexical change. *Proceedings of the 2021 Conference of the North American Chapter of the Association for Computational Linguistics: Human Language Technologies (NAACL-HLT)*.
- 2020 **Zhu, Jian**. Probing the phonetic and phonological knowledge of tones in Mandarin TTS models.. *Proceedings of Speech Prosody 2020*.
- 2019 **Zhu, Jian**; Tian, Zuoyu & Kübler, Sandra Claudia. UM-IU@LING at SemEval-2019 Task 6: Identifying Offensive Tweets Using BERT and SVMs. *Proceedings of The 13th International Workshop on Semantic Evaluation (SemEval)*. [Ranked 3rd out of 103 teams in Subtask A].
- 2019 Chao, Chaojie; Zhang, Peng; **Zhu, Jian.**, Wu, Chengrui; Wang, Huaimin. & Kele, Xu. Predicting tongue motion in unlabeled ultrasound videos using Convolutional LSTM networks.*International Conference on Acoustics, Speech, and Signal Processing*.
- 2019 Li, Bo; Xu,Kele; Feng, Dawei;Mi, Haibo; Wang, Huaimin; **Zhu, Jian**. Denoising convolutional autoencoder based B-mode ultrasound tongue image feature extraction.*International Conference on Acoustics, Speech, and Signal Processing*.

Talks & Presentations

- 2021 **Zhu, Jian** & Jurgens, David. Idiosyncratic but not Arbitrary: Learning Idiolects in Online Registers Reveals Distinctive yet Consistent Individual Styles. To be presented at the *2021 Conference on Empirical Methods in Natural Language Processing (EMNLP)*. Punta Cana, Dominican Republic (Nov 7th – Nov 11th).
- 2021 Zhang, Cong & **Zhu, Jian**. Synchronising speech segments with musical beats in Mandarin and English singing. Presented at *Interspeech 2021*. Virtual conference (August 30th - September 3rd).
- 2021 **Zhu, Jian** & Jurgens, David . The structure of online social networks modulates the rate of lexical change. Presented at the *2021 Conference of the North American Chapter of the Association for Computational Linguistics: Human Language Technologies (NAACL-HLT)*. Virtual conference (June 6th–11th).
- 2020 **Zhu, Jian**. Probing the phonetic and phonological knowledge of tones in Mandarin TTS models. Presented at *Speech Prosody 2020*. Virtual conference (May 25th - August 31st).
- 2020 **Zhu, Jian**; Styler, Will; & Calloway, Ian. MTracker - a CNN-based tool for automatic tracking of tongue contours. Presented at the *UltraFest IX Virtual Conference* in University of Indiana, Bloomington, Indiana (October 21st - 24th).
- 2019 **Zhu, Jian**; Tian, Zuoyu & Kübler, Sandra Claudia. Identifying Offensive Tweets Using BERT and SVMs. Presented at *The 13th International Workshop on Semantic Evaluation (SemEval) in Minneapolis, Minnesota (June 6th - 7th)*.
- 2018 **Zhu, Jian**; Styler, Will; & Calloway, Ian. Automatic tongue contour extraction in ultrasound images with convolutional neural networks. Presented at the *175th Meeting of the Acoustical Society of America in Minneapolis, Minnesota (May 7th - 11th)*.

Manuscripts

2021 **Zhu, Jian;** Zhang, Cong & Jurgens, David. (Submitted). Phone-to-audio alignment without text: A Semi-supervised Approach. [[arXiv](#)][[Github](#)]

Software & Tools

2021 **Zhu, Jian;** Zhang, Cong & Jurgens, David. Charsiu Phonetic Aligner. [[arXiv](#)][[Github](#)]

2019 **Zhu, Jian;**, Styler, Will & Calloway, Ian. A CNN-based tool for automatic tongue contour tracking in ultrasound images. [[arXiv](#)][[Github](#)]

Awards & Grants

2018-2021 Linguistics Block Grant, *University of Michigan*

2018-2020 Rackham Conference Travel Grant, *University of Michigan*

2018,2020 Rackham Graduate Student Research Grant, *University of Michigan*

Professional Service

Reviewing

2021 ACL Rolling Review

2021 Interspeech

2019 The Journal of the Acoustical Society of America Express Letters

2019 Acta Acustica united with Acustica (The Journal of the European Acoustics Association)

2019 International Workshop on Semantic Evaluation

Internal service

2010-2021 Graduate committee *Student representative*

2019-2020 Committee for Outreach and Inclusive Practice *Student Chair*

Teaching

2019-2021 Graduate Student Instructor for COGSCI 200: Introduction to Cognitive Science

2019 Winter Graduate Student Instructor for *LING 313: Sound Patterns*

2018 Fall Graduate Student Instructor for *LING 111: Introduction to Language*

2015 Fall Teaching Assistant for *English Grammar: Knowledge and Skills*

Membership

2019-Present International Speech Communication Association *Student Member*

2019-Present Association for Computational Linguistics *Student Member*

2019-Present IEEE *Student Member*

2016-Present Acoustical Society of America *Student Member*

2017-Present Linguistic Society of America *Student Member*

Languages

Cantonese, Mandarin, Hakka *Native*

English
Japanese
Spanish

Proficient
Intermediate
Basic

Skills

Programming

Python, R, Julia, Perl, Matlab, \LaTeX , C/C++(basic)