

# Huteng Dai

Rutgers University  
18 Seminary Place  
New Brunswick, NJ 08901-1184 USA

Email: [huteng.dai@rutgers.edu](mailto:huteng.dai@rutgers.edu)  
Personal website: [hutengdai.com](http://hutengdai.com)

## Research Interests

Computational Linguistics, Phonology, Phonetics, Acquisition, Psycholinguistics

## Education

- 2018-2024 (expected) PhD student, Department of Linguistics, Rutgers University, New Brunswick.  
Dissertation: *Phonological Learning in the Presence of Exceptions*  
Committee: Adam Jardine (Chair), Bruce Tesar, Adam McCollum, Colin Wilson (Johns Hopkins University)
- 2018-2022 Certificate in Cognitive Science, Rutgers Center for Cognitive Science.  
Thesis: *Lexical Bias in the Perceptual Learning of Mandarin Tonal Categories*  
Committee: Adam McCollum (Chair), Mariapaola D'Imperio, Joseph Casillas
- 2014-2018 BA, Capital Normal University, Beijing.  
Thesis: A Constraint-Based Analysis of Disyllabic Tone Sandhi in Linchuan.  
Advisor: Zihe Li (now at Peking University)

## NON-DEGREE

- 2023 Machine Learning Specialization certificate, Coursera.
- 2019 LSA Linguistics Institute, University of California, Davis.
- 2017 LSA Linguistics Institute, University of Kentucky.
- 2017 Department of Linguistics, University of California, Santa Barbara.

## Grant/Fellowships/Awards

- Fall 2023 **Louis Bevier Dissertation Completion Fellowship.** Rutgers University.
- Fall 2022 **School of Graduate Studies Travel Grant.** Rutgers University.
- Fall 2019 **Cognitive Science Center Travel Grant.** Rutgers University.
- 2018-2020 **Graduate Excellence Fellowship.** Rutgers University.
- May 2018 **Best BA Thesis.** Capital Normal University.

## Publications

### JOURNAL ARTICLES

**Huteng Dai.** An exception-filtering approach to phonotactic learning. Revised & Resubmitted to *Phonology*.

Zihe Li, Jingjing Pan, and **Huteng Dai.** Nasal sound changes in Naish languages. *Bulletin of Linguistic Studies* 语言研究集刊, 2019.

### PAPER-REVIEWED CONFERENCE PROCEEDINGS

**Huteng Dai**, Connor Mayer, and Richard Futrell. Rethinking representations: A log-bilinear model of phonotactics. *Proceedings of the Society for Computation in Linguistics*, 2023.

**Huteng Dai** and Richard Futrell. Simple induction of (deterministic) probabilistic finite-state automata for phonotactics by stochastic gradient descent. In *Proceedings of the 18th SIGMORPHON Workshop on Computational Research in Phonetics, Phonology, and Morphology*, 2021.

### ABSTRACT-REVIEWED CONFERENCE PROCEEDINGS

**Huteng Dai** and Richard Futrell. Learning phonotactics in a differentiable framework of subregular languages. In *Proceedings of the Annual Meetings on Phonology*, volume 9, 2022.

**Huteng Dai.** Learning Nonlocal Phonotactics in a Strictly Piecewise Probabilistic Phonotactic Model. In *Proceedings of the Annual Meetings on Phonology*, 2021.

**Huteng Dai.** Gradient similarity in Lezgian laryngeal harmony: representation and computation. In *Proceedings of the 38th West Coast Conference on Formal Linguistics*. Cascadilla Press, 2021.

Wenyue Hua, Adam Jardine, and **Huteng Dai.** Learning Underlying Representations and Input-Strictly-Local Functions. In *Proceedings of the 37th West Coast Conference on Formal Linguistics*. Cascadilla Press, 2021.

Tajudeen Mamadou Yacoubou, Mariapaola D’Imperio, **Huteng Dai**, and David Kleinschmidt. Global and local pitch level in caabe is not predicted by the frequency code. *The Journal of the Acoustical Society of America*, 2020.

**Huteng Dai** & Richard Futrell. Information-theoretic characterization of the sub-regular hierarchy. In *Proceedings of the Society for Computation in Linguistics*, 2020.

## Selected Presentations

### INVITED TALKS

- 2022 **Huteng Dai.** Neo-Trubetzkoyan Learner—a categorical approach to robust phonotactic learning. Invited Talk for Experimental/Computational Linguistics group at Department of Linguistics and Philosophy, Massachusetts Institute of Technology, online
- 2022 **Huteng Dai.** Learning phonotactics in the presence of exceptions with a categorical approach. Invited Talk for the QuantLang Lab at the Department of Language Science, University of California, Irvine, CA.

### PEER-REVIEWED CONFERENCE PRESENTATIONS

- 2023 **Huteng Dai**, Connor Mayer, and Richard Futrell. Rethinking representations: A log-bilinear model of phonotactics. Talk presented at Society for Computation in Linguistics (SCiL), UMass Amherst, MA.
- 2022 **Huteng Dai.** Phonotactic learning in the presence of exceptions with a categorical approach. Talk presented at Annual Meeting on Phonology (AMP), University of California, Los Angeles, CA.
- 2021 **Huteng Dai** and Richard Futrell. Learning Phonotactics in a Differentiable Framework of Subregular Languages. Talk presented at Annual Meeting on Phonology (AMP), online.
- 2021 **Huteng Dai** and Richard Futrell. Simple induction of (deterministic) probabilistic finite-state automata for phonotactics by stochastic gradient descent. Talk presented at ACL Workshop on Computational Research in Phonetics, Phonology, and Morphology (SIGMORPHON), online.
- 2021 **Huteng Dai.** Learning nonlocal phonotactics in Strictly Piecewise phonotactic model: recent progress. Talk presented at Society for Computation in Linguistics (SCiL), online.
- 2020 **Huteng Dai.** Structure matters: Learning nonlocal phonotactics in Strictly Piecewise phonotactic model. Talk presented at Annual Meeting on Phonology (AMP), online.
- 2020 **Huteng Dai.** Gradient similarity in Lezgian laryngeal harmony: representation and computation. Talk presented at West Coast Conference in Formal Linguistics (WCCFL), University of British Columbia, Vancouver, BC Canada.
- 2020 Wenyue Hua, Adam Jardine, and **Huteng Dai.** A subregular approach to the prob-

lem of learning underlying representations. Poster presented at West Coast Conference in Formal Linguistics (WCCFL), University of British Columbia, Vancouver, Vancouver, BC Canada.

- 2020 **Huteng Dai.** Gradient similarity in Lezgian laryngeal harmony: representation and computation. Talk presented at Berkeley Linguistics Society (BLS) Workshop “Phonological Representations: at the crossroad between gradience and categoricity”, University of California, Berkeley, CA.

## Teaching & Fieldwork Experience

- 2023 Spring Instructor, RUTGERS UNIVERSITY  
Introduction to Linguistic Theory (Honor College);
- 2021 Fall-2022 Instructor, RUTGERS UNIVERSITY  
Spring Linguistic Perspectives on Language: Invented Languages;
- 2021 Spring Instructor, RUTGERS UNIVERSITY  
Introduction to Linguistic Theory;
- 2020 Fall Teaching Assistant, RUTGERS UNIVERSITY  
Introduction to Linguistic Theory.
- 2018.3-2018.6 Teaching Assistant, CAPITAL NORMAL UNIVERSITY  
The Phonetics and Phonology of Chinese;
- 2018.7-2018.8 Teaching Assistant, LINGUISTICS INSTITUTE OF CHINA  
Phonology II (Lian-Hee Wee); Syntax II (Wei-Tien Dylan Tsai); Semantics II (Haihua Pan)
- 2017.1 Fieldwork in Jiangxi Linchuan, Linchuan dialect
- 2016.7 Fieldwork in Yunnan Lijiang, Naish language

## Reviewing

- 2021 Society for Computation in Linguistics

## Services & Leadership

- 2023 Graduate Mentor, Rutgers Honor College
- 2021 Volunteer and Session Chair, The 53rd Annual Meeting of the North East Linguistic

Society at Rutgers

- 2019-2023 Organizer, Rutgers Phonology and Phonetics Research Group (PHONX)
- 2019-2020 Organizer, Rutgers Mathematical and Computational Linguistics Group
- 2020.1-2020.7 Tenure-track job search committee (Phonology)
- 2018-2020 Editor, Facebook Page, Department of Linguistics, Rutgers University
- 2018 Founder & Organizer, BEIJING P-SIDE READING GROUP

## Skills

NATURAL LANGUAGES: Mandarin Chinese (Native), English (Fluent);

PROGRAMMING LANGUAGES: Python; R;

MACHINE LEARNING: numpy, pytorch, tensorflow, scikit-learn, cuda;

OTHER TOOLS: L<sup>A</sup>T<sub>E</sub>X; git; HTML, CSS, jsPsych, PsychoPy, Pavlovia (Web-based Experiment); EyeLink (Eyetracking), FSL (Neuroimaging); Praat, ELAN.

## Memberships

Rutgers Computational Linguistics Lab

UCI Language Processing Group

LINGUISTIC SOCIETY OF AMERICA (LSA)