Summer 2019

# Borui Zhang

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Education University of Minnesota, Twin Cities Minneapolis, MN

Ph.D. in Linguistics (minor in CS)

September 2016 – November 2021

Advisor: Dr. Claire Halpert

University of Minnesota, Twin Cities Minneapolis, MN

M.A. in Linguistics September 2014 – June 2016

Advisor: Dr. Tim Hunter

**Tianjin Foreign Studies University**Tianjin, China

B.S. in Educational Technology August 2007 – July 2011

Mentor: Dr. Lizhi Huang

Academic Natural Language Processing Specialist, Assistant Librarian experience Academic Research Consulting and Services Department

University of Florida December 2021 – present

**Teaching Assistant** 

Institute of Linguistics (University of Minnesota)

LING 3001: Introduction to Linguistics

Spring2021 Fall2020 Spring2020 Spring2019 Spring2018 Fall2018 Fall2017 Leading weekly discussion sections; design section materials and activities;

report students' performance to lecturer; classroom assisting; grading; men-

toring; giving guest lectures

**MnDRIVE Graduate Scholar** 

Grader role in:

LING 4202: Syntax I Spring 2016 Fall 2016 LING 4205: Semantics Fall 2017 LING 4302w: Phonology I Spring 2018

College of Science and Engineering (University of Minnesota)

Taught basic Robotic courses to K-12 students (particularly from underrepresented groups to STEM disciplines) courses including programming Ozobots, Inkscape graphic editor, and Intro to virtual reality

Chinese Language Tutor, Chinese Flagship program (University of Minnesota)

Spring 2015

Chinese Writing and Speaking

Provided outside-of-classroom help to undergraduate students improve their oral Chinese skills in pronunciations, tones, vocabulary, and pragmatics in real life conversations, and writing skills in grammar checking and word choices in essay writings

#### **Publications**

## The Multiple Mechanisms for Mandarin Sluices

Co-authored with Jason Overfelt Proceedings of GLOW-in-Asia, 2019

#### Sluicing-like Constructions in Kathmandu Newari (Nepal Bhasa)

Proceedings of CLS 54th 2018

## The Multiple Mechanisms for Mandarin Sluices

Co-authored with Jason Overfelt Proceedings of GLOW-in-Asia, 2019

## **Embedding, Covert Movement, and Intervention in Newari**

Co-authored with Dustin Chacón Proceedings of LSA 2018

## **Entropy Reduction Prediction on Mandarin Chinese Relative Clauses**

Processdings of 2016 Buckeye East Asian Linguistics Forum 2

#### Presentations

# A corpus-based approach to exploring embedding verbs in Nepal Bhasa

November 2020

(Oral) Linguistics Colloquium (University of Minnesota)

#### Complementation in Nepal Bhasa

September 2019

(Oral) Linguistics Colloquium Student Summer Research (University of Minnesota)

#### Research work in computational linguistics

February 2019

(Lightning talk) The ACM-W Celebration of Women in Computing in the Upper MidWest (MinneWIC)

#### **Complementation in Newari**

March 2017

(Oral) The seventh Formal Approaches to South Asian Languages (FASAL) workshop, MIT, Boston

# **Entropy Reduction Prediction on Mandarin Relative Clauses** Oct 2016

(Oral) Semantics and Syntax Workshop of the American Midwest and Prairies, Northwestern University, Evanston, Illinois

#### **Embedding Structures in Mandarin Chinese**

April 2015

(Oral) Semantics Workshop of the American Midwest and Prairies (SWAMP) Spring Research Day, Center for Cognitive Sciences, University of Minnesota

Industry experience

#### **Natural Language Understanding Specialist**

January - April 2021

Cerence Inc. Cantonese language Team (remote) Burlington, MA Created weighted context-free grammar and dictionaries (canonical/surface style); generate utterances for training automotive conversational AI model; train models using grid computing; validated final annotated data with by running stat coverage test, direct-correction, and regex-filters

# **Computational Linguist Research Intern**

January - August 2017

United Language Group R&D Minneapolis, MN Built parallel corpora for machine translations in Chinese, Japanese, and Korean; segmented the data and evaluated the models (rule-and-NN based), using Moses, NLTK, NLPIR

## Language consultant

2017

2019

Fallon Worldwide Advertising Team Minneapolis, MN Provided semantic knowledge to the design team, and created a semantic entertainment program; used Twitter API and Python and implemented a program that captures keywords in customers' tweets

Skills

#### **Programming**

Python (lib:TensorFlow, PyTorch) R, Matlab, Haskell, Bash, JavaScript, Git, HTML, CSS, Linux

## Machine Learning Certification (verified on Linkedin)

Sequence Models / NLP in TensorFlow / TensorFlow for AI / Structuring ML project

#### Languages

Mandarin (fluent), Cantonese (advanced), Korean (phonology & morphology) Japanese (project), Nepal Bhasa (research focus), Somali (class experience)

Honors and scholarships

Summer Research scholarship (University of Minnesota)

NASSLLI 2016 Travel Grant (Rutgers University) 2016

ESSLLI Travel Grant (European Association for Computer Science Logic) 2015

Volunteer Service

Computational Linguistics Reading Group Leader
International Latin Dance Club Officer
2019-present
Linguistics Colloquium Student Organizer
2015-2018
Journal of Healthcare Informatics Research Review
2018

Memberships Linguistics Society of America

Use of Computational Methods in the Study of Endangered Languages

Women in Computer Science