

SARA BLALOCK NG

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CURRENT WORK

States of the art in natural language processing tasks rely on paradigms derived largely from written language. My research interest is highlighting what linguistic information is unique to spoken word, and how that can be used to improve computational understanding of natural language. At the University of Washington, I am a member of the Signal, Speech and Language Interpretation (SSLI) Lab in the Department of Electrical Engineering and the Phonetics Lab in the Department of Linguistics.

Current Projects:

- Punctuation prediction using prosodic features
- Dynamic classification of spectral/temporal cue attenuation of listeners with hearing loss
- Modeling summarizing statistics of prosody across dialogue turns in conversational speech

Recent Projects:

- Lexical features as predictors of vowel reduction
- Transformers with prosodic cues to detect speech disfluencies in text
- Digitizing of narratives in Salish languages (under departmental research assistanceship)
- Tacit speaker representations of sesquisyllables in English

EDUCATION

current University of Washington
5th-year Ph.D. student: Computational Linguistics
Advised by Drs. Richard Wright and Mari Ostendorf

2013-2017 University of Utah
Honors Bachelor of Arts: Linguistics
Advisor: Dr. Abby Kaplan
Thesis: Musical Text-Setting as Evidence for Syllabification of Highly Moraic Structures in English
Bachelor of Science: Applied Mathematics
TESOL: Teaching English to Students of Other Languages Certificate

RESEARCH

2021 **Sara Ng**, Gregory Ellis, Pamela Souza, Frederick Gallun, Richard Wright
Modeling the time course of cue weighting angle calculations
Acoustical Society of America, **poster**

2021 Courtney Mansfield, **Sara Ng** Gina-Anne Levow, Mari Ostendorf, Richard Wright
What does parity mean? A detailed comparison of ASR and human transcription errors
Acoustical Society of America, **talk**

- 2021 Courtney Mansfield, **Sara Ng** Gina-Anne Levow, Richard Wright, Mari Ostendorf
Revisiting Parity of Human vs. Machine Conversational Speech Transcription
INTERSPEECH, **short paper**
- 2018 **Sara Ng**, Joselyn Roriguez and Abby Kaplan
Musical Evidence for Syllabification Patterns of Highly Moraic Structures in English
Linguistic Society of America, **poster**
- 2017 Jenica Jessen, **Sara Ng** and Joselyn Rodriguez
Musical Evidence for Syllabification Patterns in English
University of Utah Student Conference in Linguistics, **talk**
- 2017 Jenica Jessen and **Sara Ng**
Musical Evidence for Syllabification Patterns of Highly Moraic Structures in English
Undergraduate Research Symposium, University of Utah, **poster**

RESEARCH POSITIONS

- 2021-2022 US National Institutes of Health, grant NIH R01 DC006014
PI: Richard Wright
Research Assistant
- 2021 Google Federated Assistant, Federated Learning
Host: Andrew Hard
Software Engineering Intern
- 2019-2020 US National Science Foundation, grant IIS-1617176
PIs: Mari Ostendorf, Richard Wright
Research Assistant
- 2019 Google Core Assistant, Pygmalion
Host: Katie Vadella
Linguist Intern
- 2017-2018 University of Washington Linguistics
PI: Sharon Hargus
Departmental Research Assistant

TEACHING

Primary Instructorships

2020 Summer LING 473: Basics For Computational Linguistics

Teaching Assistanceships

2020 Fall LING 450: Introduction to Linguistic Phonetics
2019 Spring CSE 472: Introduction to Computational Linguistics
2018 Fall LING 570: Shallow Processing Techniques for Natural Language Processing
2018 Spring LING 269: Swearing and Taboo Language

Graderships

2020 Winter LING 451: Phonology I
2019 Spring LING 452: Phonology II
2019 Winter LING 451: Phonology I

Curriculum Development

2019 Winter Staff assistanceship converting LING 553 (Experimental Phonetics),
LING 450 (Phonetics), and ASL Program course materials to online format

Guest Lectures

- 2019 25 Oct LING 550 (Phonetics I): *Reading Spectrograms*
2019 21 Aug LING 473 (Compling Basics): *Formal Grammars & Parsing*
2019 23 May LING 200 (Intro. Linguistics): *What is Computational Linguistics?*

SKILLS

Computer Languages

- Python (fluent)
- R (fluent)
- HTML/CSS/JavaScript (fluent)
- Java (basic)
- Matlab (basic)

Machine Learning

- pytorch
- tensorflow
- Scikit-learn

Linguistic Tools

- Praat
- NLTK
- Kaldi

Natural Languages

- French (working)
- Spanish (basic)
- Hoisanwa Chinese (heritage)

COURSEWORK

GPA 3.89

Computational

LING 566: Syntax for Computational Linguistics
LING 567: Knowledge Engineering for NLP
LING 570: Shallow Processing Methods for NLP
LING 571: Deep Processing Methods for NLP
LING 572: Advanced Statistical NLP
LING 575: NLP Ethics
ECE 596: Conversational Systems and AI

Theoretical

LING 532: Sociolinguistics I
LING 550: Intro. Phonetics
LING 553: Experimental Phonetics
LING 507: Syntactic Theory I
LING 579: Semantic Theory II
LING 580: Context and Speech Variation
LING 580: Experimental Phonology

SERVICE

- 2020 **Editor**, University of Washington Working Papers in Linguistics
2020 **Student Volunteer**, Association for Computational Linguistics (ACL)
2020 **Organizing Committee Member**, Northwest Linguistics Conference (NWLC)
2020 **Reviewer**, NWLC
2020 **Proctor**, North American Computational Linguistics Open Competition
2020 **Consultant**, Undergraduate senior capstone in speech translation
2019 **President**, Linguistics Society of the University of Washington (LSUW)
2019 **Student Volunteer**, North American Chapter of the ACL
2018 **Vice President**, LSUW

AWARDS

- 2018 Travel Scholarship for Second Ethics in Natural Language Processing Workshop
North American Chapter of the ACL
- 2017 Top Scholar Award
University of Washington Graduate School
- 2017 UROP Small Research Grant
University of Utah Undergraduate Research Opportunities Program
- 2013 President's Scholarship (full-tuition)
University of Utah

OTHER WORK EXPERIENCE

- 2016-2017 Speech Transcriber, CaptionCall
- 2014-2017 Mathematics Tutor