

# Helen M. Gent

COMPUTATIONAL LINGUISTICS AND PHONOLOGY · PHD STUDENT

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## Education

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### University of Illinois at Urbana-Champaign

*Champaign-Urbana, IL, USA*

PH.D. - COMPUTATIONAL LINGUISTICS AND PHONOLOGY

*Aug. 2017 - May 2022*

- Dissertation Title (in progress): Deep Learning for Prosody-Based Irony Classification in Spontaneous Speech
- Certificate in Language and Speech Processing

### University College London

*London, UK*

M.A. - LINGUISTICS

*Sept. 2014 - Sept. 2015*

### University of Kansas

*Lawrence, KS, USA*

BACHELOR'S OF MUSIC - VOICE PERFORMANCE

*Sept. 2010 - May 2014*

## Technical Skills

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**Programming** Python, Tensorflow, PyTorch, R, LaTeX, Bash, Julia

**Languages** English (native), Italian (intermediate), German (basic), Spanish (basic), French (basic), Japanese (basic)

## Related Experience

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### SRI International

*Menlo Park, CA USA*

SENIOR INTERN - SPEECH TECHNOLOGY

*March 2021 - Present*

- Improved performance of existing prosodic conversational speech endpoint detection system by incorporating multi-modal input.
- Used advanced machine learning methodology to automatically classify naturalistic speech based on text and acoustic cues.
- Identified and extracted relevant acoustic features from speech data for speech processing applications.

### AbbVie Inc.

*Champaign, IL USA*

NATURAL LANGUAGE PROCESSING RESEARCHER

*May 2020 - February 2021*

- Automatically inferred semantic relation categories from annotated biomedical journal articles
- Reviewed existing code to maximize performance and efficiency

### Phonetics and Phonology Lab

*University of Illinois at*

*Urbana-Champaign*

RESEARCH ASSISTANT

*2019*

- Organized and led introductory and advanced workshops on Praat phonetic analysis software
- Assisted with recording equipment and analysis software for faculty and student experiments

### Library Collection Management Services

*University of Illinois at*

*Urbana-Champaign*

GRADUATE ASSISTANT

*2018-2020*

- Maintained and updated library cataloguing database
- Assessed collection condition and metadata in preparation for digitization

## Publications and Presentations

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### F0 as a Cue for Irony in Spontaneous Speech

*In proceedings*

2019 INTERNATIONAL CONGRESS OF PHONETIC SCIENCES, MELBOURNE, VICTORIA, AUSTRALIA

2019

- Acoustic analysis of ironic speech in a naturalistic setting. Conference presentation and publication in proceedings.

### Prosodic Cues for Irony in Spontaneous Speech

*In proceedings*

THE 11TH ANNUAL MEETING OF THE ILLINOIS LANGUAGE AND LINGUISTICS SOCIETY

2019

- Conference presentation on irony prosody in naturalistic speech.

### Japan 12-16

*IDEA*

INTERNATIONAL DIALECTS OF ENGLISH ARCHIVE

2016

- Detailed phonetic transcription and scholarly commentary on the Japanese accent of English.

## Teaching Experience

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### Tools and Tech for Speech and Language Processing

*Teaching Assistant / Instructor*

LINGUISTICS 402

2020-2021

- Introduction to the tools and methods of study in speech and natural language processing (NLP), with a focus on programming for NLP and speech applications, statistical methods for data analysis, and tools for displaying and manipulating speech data.

### Language History

*Teaching Assistant / Instructor*

LINGUISTICS 210

2020-2021

- Historical survey of language and linguistic change.

### Elements of Phonology

*Teaching Assistant / Instructor*

LINGUISTICS 302

2021-2022

- Introduction to elements of phonological theory and data analysis. Emphasis is placed on both Structuralist and Generative theories, introducing students to the principles of phonological contrast, allophony, neutralization, and markedness. Formal phonological models are considered, including both distinctive feature theory and prosodic theory. Equal emphasis is placed on linguistic data analysis.

### Machine Translation: History and Applications

*Teaching Assistant*

LINGUISTICS 415

2020-2022

- Historical survey of machine translation techniques, theories, and symbolic and statistical paradigms.

### English Pronunciation for International Teaching Assistants

*Teaching Assistant / Instructor*

ENGLISH AS A SECOND LANGUAGE 504

2017-2020

- Sound inventory of North American English, articulatory anatomy, English phrase-level rhythm, stress, and intonation features, presentation skills for an English language classroom.

## Program Committees

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2019-2020 **Member**, ITA Norming Committee

*Urbana, IL*

2018-2019 **Abstract Reviewer**, Illinois Language and Linguistics Society Conference

*Urbana, IL*

2018-2019 **Organizer**, Illinois Language and Linguistics Society Conference

*Urbana, IL*

2018 **Member**, ITA Objectives Committee

*Urbana, IL*

## Professional Memberships

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2016-2020 **Associate Editor - Japan**, International Dialects of English Archive

2019-2020 **Student Member**, International Phonetic Association

## Research Interests

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### **Phonetic/Phonological**

PROSODY MODELING, TEXT-TO-SPEECH SYNTHESIS, AUTOMATIC SPEECH RECOGNITION

### **Computational-Pragmatic**

IRONY RECOGNITION, NATURAL LANGUAGE UNDERSTANDING, CULTURE-SENSITIVE MACHINE TRANSLATION

### **Computational-Theoretic**

LOW-RESOURCE NLP, HUMAN-COMPUTER INTERACTION, CONVERSATIONAL AI