Rachael Tatman

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Education

2012 - June 2017 PhD in Linguistics, The University of Washington
2008 - 2012 BA in Linguistics and English, The College of William and Mary

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Software and Programming Languages

Very Proficient: R, Git, Bash scripting, Praat and Praat scripting language, LaTeX
Comfortable: Python (2 and 3), SQL, MySQL, HTML (4 and 5), CSS, ELAN, Drupal, PsychoPy, PsyToolkit
Some Experience: Java, SPSS, Matlab

Selected Non-Academic Work History

August 2013 - November 2014: Retail Associate, Queen Mary Tea, Seattle WA
October 2009 – August 2012: Clerk, Mermaid Books, Williamsburg VA
April 2012 – August 2012: Server, Mad About Chocolate, Williamsburg, VA
April 2011 – August 2012: Clerk, Knitting Sisters LLC, Williasmburg VA
August 2009 – November 2011: Manager, Williamsburg Realfood, Williamsburg, VA

Project: Dialect Bias in Automatic Speech Recognition

Key question: Do modern automatic speech recognition (ASR) systems work equally well for everyone?
My finding: Even state-of-the-art ASR systems still struggle to handle regional, gender-based and ethnic language variation. Accent adaptation is still very much a necessary Natural Language Processing task.

Resulting publications:

2017 Tatman, R. and Katsen, C. "Effects of Talker Dialect, Gender Race Differences on Accuracy for Bing Speech and YouTube Automatic Captions" *Interspeech* Stockholm, Sweden

2017 Tatman, R. "Gender and Dialect Bias in YouTube's Automatic Captions" *First Workshop on Ethics in Natural Language Processing* Valencia, Spain Link

2017 "Leveraging insights from human speech perception for speaker dialect adaption" *Second Annual Virtual Assistant Summit*, San Francisco, CA

2017 "Addressing Bias in Automatic Speech Recognition" *Scholars' Studio: "Advocacy" Research @ the Commons*, Seattle, WA

Project: How Do Human Listeners Learn to Understand New Dialects?

Key question: How do listeners who have just learned to identify the sounds of a new dialect use their social knowledge about a new speaker to understand them?
My finding: If a listener believes the wrong thing about a speaker (like that they're from the US when they're really from New Zealand) they can "undo" recent dialect learning.

Resulting publications:

2017 Tatman, R. "'Oh, I've Heard That Before': Modelling Own-Dialect Bias After Perceptual Learning by Weighting Training Data" *Cognitive Modeling and Computational Linguistics Workshop at EACL* Valencia, Spain Link

2016 Tatman, R. "Speaker Dialect is a Necessary Feature to Model Perceptual Accent Adaptation in Humans" *4th Pacific Northwest Regional NLP Workshop: NW-NLP 2016* Seattle, WA Link

2016 "Listening with American Ears: Using Social Information in Perceptual Learning", *3rd Conference on Experimental Approaches to Perception and Production of Language Variation*, Vienna, Austria

2016 "Who Said That? Human Perceptual Accent Adaptation as a Model for Automation", *Doctoral Consortium of the 2016 EMNLP Workshop on Natural Language Processing and Computational Social Science*, Austin, TX

Project: Sociolinguistic Variation on Twitter

Key question: Do Twitter users make use of variant spellings (like "deeze" for "these") in a way that captures the way they talk?
My finding: Yes, but only within certain communities, and only for speech features that are already stereotyped. You can not reasonably guess what someone will sound like based on how they write on social media.

Resulting publications:

2016 Tatman, R. " 'I'm a spawts guay': Comparing the Use of Sociophonetic Variables in Speech and Twitter" *Selected Papers from NWAV 44*

2015 Tatman, R. "#go awn: Sociophonetic Variation in Variant Spellings on Twitter" *Working Papers of the Linguistics Circle of the University of Victoria* Link

2015 "Comparing the Use of Sociophonetic Variables in Speech and Twitter" *New Ways of Analyzing Variation 44* Toronto, Canada Link

Project: Sign Language Grammatical Meta-Analysis

Key question: Do all signed languages make use of the same set of grammatical building blocks, like different hand shapes and facial expressions?
My finding: No. Almost all signed langauges make use of different hand shapes, movements and locations, but beyond that they vary a great deal.

Resulting publications:

2015 Tatman, R. "The Cross-linguistic Distribution of Sign Language Parameters" *Proceedings of the Forty-first Annual Meeting of The Berkeley Linguistics Society* Link

2015 "The cross-linguistic distribution of sign language parameters" *Berkeley Linguistics Society*, Berkeley, CA

2014 "The SLAY Database: A Meta-Analytic Database of Sign Language Grammars" *Workshop on Databases and Corpora in Linguistics*, Stony Brook, NY