James Tanner

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Education

2016-present	**PhD in Linguistics**, McGill University, Montreal, QC, Canada	
2013-2015	**MA in Linguistics**, McGill University, Montreal, QC, Canada	*3.83/4.0 GPA*
2008-2011	**BA in Linguistics**, University of Kent, Canterbury, UK	*First Class Honours*

Experience

Oct 2017- July 2018

TTS Language Engineer, Amazon Development Center — Gdańsk, Poland

Develop new and released high-quality Text-to-Speech (TTS) voices used in Amazon products, including Amazon Alexa and Polly services. Apply linguistic expertise in analysing language data, defining research projects, and collaborating with a wide range of stakeholders, including software engineers, UX researchers, in-country product and operations teams, and senior leadership to create world-class voices for consumer and business markets.

- Develop language models and create real-world natural language testcases for language processing systems.
- Design, implement, and report results of research experiments, examining the impact of new features and products.
- Triage reported issues, and implement solutions through optimising language models, text normalisation modules, and pronunciation systems.
- Design and create recording scripts to ensure complete phonological and phonotactic coverage.
- Collect and curate datasets of high-visibility media and cultural topics (e.g., music, films, traffic) for transcription, and collaborate with management to improve workflows.
- Implement and optimise machine learning algorithms to enhance TTS output.
- Provide periodic updates of new features to international marketing and localisation teams to maximise visibility of Amazon language technologies.
- Design training materials for remote annotation teams and lead off-site training sessions.

Sept 2014- Oct 2017

Researcher, Montreal Language Modelling Laboratory — Montreal, QC, Canada

Perform research on structured variability in phonology and phonetics through corpus data and laboratory experiments. Own and manage projects from conception to completion, applying knowledge of formal linguistics and research methodology to design experiments, analyse data, and interpret results. Define project outcomes with external collaborators, and deliver results for publication.

- Develop data extraction and forced alignment tools for multiple speech corpora and language models. Techniques include: XML tree parsing, context-free grammars, HMM classification, TextGrid parsing, automatic spectrographic measurement.
- Create research stimuli and methodology for controlled laboratory experiments.
- Transcribe, annotate, and evaluate quality of language data.
- Analyse corpus and experimental data using visualisation and statistical modelling approaches. Techniques include: hierarchical linear and logistic regression models, maximum-entropy harmonic grammars, power analysis, maximum-likelihood model selection.
- Develop and maintain annotation workflows and training materials for research assistants, and become a resource for internal annotation conventions.
- Showcase projects to external collaborators, and implement action points defined during feedback.

Publications and Presentations

2017 **Tanner, J.**, Sonderegger, M., and Wagner, M.. 'Production planning and coronal stop deletion in spontaneous speech'. *Laboratory Phonology*, 8(1), 15. Access

Tanner, J.. 'Phonetic and phonological mechanisms of Tokyo Japanese vowel devoicing'. Presentation at *The Montreal-Ottawa-Toronto Phonology Workshop*, 22-24 March, Université du Québec à Montréal, Montreal, QC, Canada.

2015 **Tanner, J.**, Sonderegger, M., and Wagner, M.. 'Production planning and coronal stop deletion in spontaneous speech'. In *Proceedings of the 18th International Congress of Phonetic Sciences.* Glasgow, UK: University of Glasgow. Access

Technical Skills

Scripting and Markup Languages: Python (Pandas, NumPy, Seaborn, NLTK), R (tidyverse, lme4), Bash, LaTeX, regular expressions, XML

Systems: MacOS, Linux (Ubuntu, Red Hat), Windows, Git, Vim, Praat

Analysis: GLM regression models, mixed-effects models, hidden Markov models, hypothesis testing

Teaching

Jan -April 2015 **Teaching Assistant** Introduction to Linguistics McGill University
- Formal methods in phonology, syntax, semantics, and pragmatics.

Sept-Dec 2014 **Teaching Assistant** Introduction to the Study of Language McGill University
- Language as communication, experimental approaches to language science (psycholinguistics, neurolinguistics), sociolinguistics, dialectology, discourse analysis, linguistic fieldwork.

Last updated: September 26, 2018