

# JOSH MEYER

joshua.richard.meyer@gmail.com

jrmeier.github.io



*I work at the intersection of Data, Machine Learning, and open-source language technologies. I've worked in academia, big companies, and small startups, always striving to make Voice tech accessible to all languages and every developer.*

*Currently based in California.*

## EDUCATION

---

<b>University of Arizona</b> Ph.D. in Linguistics (focus: <i>Computational Linguistics</i> ) Thesis: <i>Multi-Task and Transfer Learning in Low-Resource Speech Recognition</i>	July 2019 Tucson, AZ
<b>University of Arizona</b> M.A. in Linguistics	May 2015 Tucson, AZ
<b>Seton Hall University</b> B.A. in Liberal Studies	May 2012 South Orange, NJ

## INDUSTRY

---

<b>Coqui</b> Cofounder & Head of Data <i>Bringing Voice technologies to all languages and to every developer.</i>	April 2021 — Present
<b>Mozilla Foundation</b> Machine Learning Fellow <i>Advising, building, and iterating on Voice technologies for East African languages.</i>	January 2020 — March 2021
<b>Artie, Inc.</b> Lead Scientist, Speech Technology <i>Directing and developing all Speech technologies used at Artie.</i>	July 2019 — March 2021
<b>Mozilla (Machine Learning Research Group)</b> NSF-Sponsored Internship <i>Developing end-to-end multilingual Automatic Speech Recognition techniques based on Transfer Learning and Deep Neural Networks (i.e. DeepSpeech).</i>	October 2018 — May 2019

**Various Companies**

2016 — 2018

Kaldi &amp; ASR Consultant

*Optimized Automatic Speech Recognition pipelines  
for various companies using the Kaldi toolkit.*

**TECHNICAL STRENGTHS****Computer Languages**Python, Bash, MATLAB, Perl, R, C++ (*some knowledge*)**Other**TensorFlow, PyTorch (*some knowledge*), Kaldi, scikit-learn, pandas, nltk, matplotlib, kenlm, Linux, AWS, git, GitHub**OPEN SOURCE WORK****Mozilla DeepSpeech***Added Transfer Learning*[\[Code\]](#)**Multi-Task Kaldi***Multi-Task Acoustic Modeling with Neural Networks*[\[Code\]](#)**NVDA***Added Kyrgyz language to screen reader*[\[Code\]](#)**eSpeak NG***Added Kyrgyz language to speech synthesizer*[\[Code\]](#)**Autotrace***Created visualization tools for ultrasonic imaging*[\[Code\]](#)**RESEARCH EXPERIENCE****National Science Foundation**

July 2015 — July 2019

*Graduate Research Fellow*

Conducting PhD thesis research on Multi-Task Learning and Deep Learning techniques for Automatic Speech Recognition in low-resource data scenarios.

**CNRS-LIMSI**

July 2016 — July 2017

*Chateaubriand Research Fellow**Orsay, France*

Conducted research on Neural Network Acoustic Model adaptation, and Recurrent Neural text augmentation techniques for language modeling in Speech Recognition.

**American University of Central Asia**

June 2015 — August 2015

*Visiting Research Scholar**Bishkek, Kyrgyzstan*

Created a spoken corpus of conversational speech for the Kyrgyz language.

**Arizona Phonological Imaging Lab**

Spring 2015

*Research Assistant**Tucson, AZ*

Developed software to visualize and statistically analyze ultrasonic images of tongue contours for articulatory-phonetics research.

**American University of Central Asia**

August 2013 — March 2014

*Visiting Research Fellow**Bishkek, Kyrgyzstan*

Conducted acoustic-phonetic and phonological research on the Kyrgyz language, using paradigms from Cognitive Science.

**Arizona Scottish Gaelic Project**

September 2012 - July 2013

*Research Assistant*

*Tucson, AZ*

Conducted fieldwork with speakers of Scottish Gaelic; Aided in online grammar compilation

**Language Acquisition Research Center at Hunter CUNY**

November 2011 — August 2012

*Research Assistant*

*New York, NY*

Designed text corpus-based research, transcribed spontaneous child speech, and designed the laboratory's website.

**KIT/NYU MEG Lab at NYU**

May 2012 — August 2012

*Research Assistant*

*New York, NY*

Aided in analysis and processing of Magnetoencephalography (MEG) brain imaging data from cognitive science research.

**Language Acquisition and Neurolinguistics Lab at Rutgers**

May 2012 - August 2012

*Research Assistant*

*New Brunswick, NJ*

Aided in experimental design of Neurolinguistic research studies.

## GRANTS & AWARDS

**Graduate Research Fellowship**

2015-2019

*Approx. \$102,000 + \$36,000 (tuition)*

*National Science Foundation*

**NSF INTERN Grant**

2018

*Approx. \$50,000*

*National Science Foundation*

**Chateaubriand STEM Fellowship**

2016

€5,000

*French Embassy to the United States of America*

**GROW Travel Award**

2016

\$5,000

*National Science Foundation*

**Visiting Research Fellowship**

August 2013 — March 2014

*\$5,000*

*American University of Central Asia*

**Regents Scholarship**

August 2008 — May 2012

*\$111,140 (tuition)*

*Seton Hall University*

---

**PUBLICATIONS**

---

- (2020) Ardila, Rosana, and Branson, Megan, and Davis, Kelly, and Henretty, Michael, and Kohler, Michael, and Meyer, Josh, and Morais, Reuben, and Saunders, Lindsay, and Tyers, Francis M., and Weber, Gregor. **Common Voice: A Massively-Multilingual Speech Corpus**. Proceedings of the 12th Conference on Language Resources and Evaluation (LREC 2020). [Link]
- (2020) Meyer, Josh, and Rauchenstein, Lynn, and Eisenberg, Joshua D., and Howell, Nicholas. **Artie Bias Corpus: An Open Dataset for Detecting Demographic Bias in Speech Applications**. Proceedings of the 12th Conference on Language Resources and Evaluation (LREC 2020). [Link]
- (2019) Meyer, Josh. **Multi-Task and Transfer Learning in Low-Resource Speech Recognition**. PhD Dissertation. Univeristy of Arizona. [Link]
- (2018) Meyer, Josh. **Unsupervised Task Discovery for Multi-Task Acoustic Modeling**. Proceedings of the Machine Learning in Speech and Language Processing Workshop. [Poster] [Link]
- (2018) Meyer, Joshua, and Kloehn, Nick, and Carnie, Andrew. **The Field is not the Lab, and the Lab is not the Field: Experimental linguistics and endangered language communities**. *Insights from Practices in Community-Based Research: From Theory To Practice Around The Globe*, ISBN: 978-3-11-052701-8 Edited by Shannon Bischoff and Carmen Jany. Mouton De Gruyter [Link]
- (2018) Bekmurzaev, Nurbek, and Lottholz, Philipp, and Meyer, Joshua. **Navigating the safety implications of doing research and being researched in Kyrgyzstan: cooperation, networks and framing**. *Central Asian Survey*, 37:1, 100-118, DOI: 10.1080/02634937.2017.1419165 [Link]
- (2017) Meyer, Joshua. **Development of a Kyrgyz Speech Synthesizer: A Demonstration of the Ossian Frontend and Merlin Neural Network Speech Synthesis Toolkit**. *Proceedings of The 5th International Conference on Computer Processing of Turkic Languages, Vol. 1*, 130-136. [Link]
- (2016) Lottholz, Philipp, and Meyer, Joshua. **‘Friend’ or ‘Foreign Agent’? On the Limits of Field Research in Post-Soviet Kyrgyzstan**. *Exeter Central Asian Studies Network*. [Link]
- (2016) Meyer, Joshua. **Conducting Linguistic Fieldwork in Kyrgyzstan**. *Arizona Anthropologist*, Vol. 27. [Link]

---

## PRESENTATIONS

**Language Technologies in Central Asia: A Survey.** Joint ESCAS-CESS Conference at the American University of Central Asia. *2017, Bishkek*

**Predicting Language Dominance in Kyrgyz-Russian Bilinguals.** w/ Quam, Carolyn Arizona Linguistics Circle 9. *2015, Tucson*

**Phonological processing in Kyrgyz-Russian bilinguals.** w/ Quam, Carolyn, and Bever, Thomas The Miniconference on Metrical Structure: Acquisition and processing. *2014, Utrecht*

**The Kyrgyzstan corpus project: Building a language resource unique to Kyrgyzstan and available to all.** CASI Public Seminar at the American University of Central Asia. *2014, Bishkek*

**Now you hear it, now you don't: Phonological processing in Kyrgyz-Russian bilinguals.** CASI Public Seminar at the American University of Central Asia. *2013, Bishkek*

**Psycholinguistics: Thinking about language differently.** Lecture conducted at The Plattform at Werkstatttraum. *2013, Berlin*

---

## EVENT ORGANIZATION

**Kyrgyz Voice Technology Hackathon** Attended by undergraduate students as well as professional developers. *(2019, American University of Central Asia)* [\[Link\]](#)

**DeepSpeech & Common Voice Tutorial** Delivered to attendees of the Fifth International Workshop on Computational Linguistics for Uralic Languages. *(2019, University of Tartu)* [\[Link\]](#)

**Speech Synthesis Workshop: Hands-on with Merlin & Ossian** Delivered to Computational Linguistics Faculty and Graduate Students. *(2018, Higher School of Economics)* [\[Link\]](#)

**Speech Recognition Workshop: Hands-on with Kaldi & DeepSpeech** Delivered to Computational Linguistics Faculty and Graduate Students. *(2017, Higher School of Economics)* [\[Link\]](#)

---

## WRITTEN TUTORIALS

Kaldi Troubleshooting Head-to-Toe [\[Link\]](#)

How to Train *practically* any Model from *practically* any Data with TensorFlow [\[Link\]](#)

Getting started with the Merlin Speech Synthesis Toolkit [\[Link\]](#)

How to Train a Deep Neural Net Acoustic Model with Kaldi [\[Link\]](#)

How to add a new language to the eSpeak NG Speech Synthesizer [\[Link\]](#)

The Flow of TensorFlow: An Email Classification Tutorial [\[Link\]](#)

An Introduction to CMU-Sphinx Speech Recognition Toolkit: First Steps [\[Link\]](#)