Seongjin Park | Curriculum Vitae

✉ spark002@ets.org • Google Scholar Page • As of Nov. 10, 2024

Research Interests

- Experimental phonetics
- Automatic speech recognition
- Computational Linguistics
- Automatic speech scoring
- Second language acquisition
- Natural Language Processing

Education

Ph.D. in Linguistics
University of Arizona, Tucson, AZ, USA *2016–2021*
Department of Linguistics
Dissertation: Human and machine judgment on non-native speakers' proficiency
Advisor: Dr. Natasha Warner
Dissertation committee: Dr. Natasha Warner (Chair), Dr. Mike Hammond, Dr. Mihai Surdeanu

M.S. in Human Language Technology
University of Arizona, Tucson, AZ, USA *2019–2019*
Department of Linguistics
Internship Report: Geographic Time and Site Identification, and Document Classification
Internship committee chair: Dr. Mike Hammond
Internship supervisor: Dr. Mihai Surdeanu

M.A. in English Linguistics
Hankuk University of Foreign Studies, Seoul, South Korea *2014–2016*
Department of English Linguistics
Thesis title: Acoustic cues to perception of English intervocalic liquids by Korean EFL learners
Advisor: Dr. Tae-Yeoub Jang
Thesis committee: Dr. Sung-Hoon Hong (Chair), Dr. Jee Eun Kim, Dr. Tae-Yeoub Jang

B.A. in English Linguistics
Hankuk University of Foreign Studies, Seoul, South Korea *2007–2014*
College of English, Department of English Linguistics

Work & Experience

Machine Learning Engineer - Voice
Speak *July. 2025 – Present*
Speak
Work within learning technology team to research and develop speech capabilities for language learning products. Main/lead researcher and key collaborator for capabilities including:
- Multilingual automatic speech recognition and phoneme recognition systems for learner pronunciation analysis across multiple target languages
- Real-time audio processing pipelines optimized for low-latency streaming inference
- Voice agent architectures for interactive, AI-driven speaking practice and conversational tutoring
- Speech scoring and automated feedback generation models for fine-grained learner assessment

Research Scientist - NLP
Educational Testing Service (ETS) *Aug. 2021 – July 2025*
ETS AI Labs
Lead wearable team to research and develop speech capabilities for wearable devices to measure everyday language use. Research and develop 20+ text and speech capabilities for language-learning prototypes and products as a main/lead researcher and key collaborator including:
- Analyze the patterns of non-native speakers' speech to provide pronunciation feedback for the language learning application.
- Develop automatic feedback generation system for language learners as well as native speakers of English in different environment (workplace, travel, job application, etc).
- Develop automatic speech recognition system and automatic speech scoring models for English language learners.
- Benchmark off-the-shelf speech models (Wav2Vec2, HuBERT, Whisper, NeMO, Microsoft Azure, Google Speech, etc) on speech-related task including automatic speech recognition, emotion recognition, speech scoring, and speaker diarization.
- Disseminate R&D results by publishing papers and presenting at the NLP and speech conferences.

Graduate Teaching Associate
University of Arizona *Jan. 2021 – May 2021*
Department of Linguistics
Supervisor: Dr. Gus Hahn-Powell
Teaching assistant for LING439 (Statistical natural language processing)
Develop an online materials for the course.
Create mastery and coding questions for the course.
Conducted code reviews and provided feedbacks.

Graduate Teaching Associate
University of Arizona *Jan. 2021 – May 2021*
Department of Linguistics
Supervisor: Dr. Amy V. Fountain
Section leader for LING150 (Language in the world)
Develop discussion topics and help students to create their own language.

Graduate Research Associate (Speech Scientist)
University of Arizona *Aug. 2020 – May 2021*
Department of Linguistics
Supervisor: Dr. Rebecca Sharp
This research received funding from DARPA.
Build a model for multi-modal sentiment and emotion analysis.
Evaluate the performance of existing automatic speech recognition tools.
Build sentiment analysis models using low-level acoustic features.

Expert language grammar author and consultant (Computational Linguist)
Lausanne Business Solutions *May 2020 – Aug. 2020*
Writing grammars for automatic speech recognition using Amazon AWS.
Wrote and examine basic grammars for following languages: Korean, Chinese, Dutch, Italian, Spanish, Polish, Swedish, Japanese

Graduate Research Associate (Computational Linguist)
University of Arizona *Dec. 2018 – May. 2020*
Computational Language Understanding Lab, Department of Computer Science
Supervisor: Dr. Mihai Surdeanu
Build a text classification model to categorize collected data.
Write a grammar to recognize spatial and temporal expressions in the data.

Graduate Research Assistant (Phonetician)
University of Arizona *Aug. 2016 – Jan. 2019*
Douglass Phonetics Lab, Department of Linguistics
Supervisor: Dr. Natasha Warner
Conduct speech production and perception experiment.
Examine the difference between read speech and spontaneous speech.
Analyze the results of previous and current experiments.
Supervise undergraduate researchers.

Instructor
Hankuk University of Foreign Studies *Jun. 2018*
Language Technology Research Institute
Teaching a summer workshop "Automatic speech recognition with Kaldi / Linguistic research using machine learning and deep learning"

Instructor
Hankuk University of Foreign Studies *Jun. 2017*
Language Technology Research Institute
Teaching a summmer workshop "Programming Workshop: Data analysis with Python and Praat". (June 19 – 28, 2017).

Teaching Assistant
Hankuk University of Foreign Studies *Mar. 2014 – Feb. 2016*
Foreign Language Education Center
Supervisor: Dr. Jee Eun Kim (Mar. 2014 – Aug. 2014), Dr. Won Jun Nam (Sep. 2014 – Feb. 2016)

Publications & Presentations

Manuscripts in Preparation:
- **Seongjin Park**. (nearing submission). Use of automatic proficiency judgment system for linguistic experiment.
- **Seongjin Park**. (nearing submission). Effects of temporal information on proficiency judgment.

Published Journal Papers:
- **Seongjin Park**, Natasha Warner. 2023. The role of probability and duration on speech perception. *Speech Communication* 152: 102950.
- **Seongjin Park**, Mihai N. Ducea, Barbara Carrapa, Mihai Surdeanu, Robert Hayes, & Dan Collins. 2022. Answering Geosciences Research Questions at a Global Scale via a Hybrid Machine-Human Learning Approach: A Case Study of the Link between Climate and Volcanism. *GSA (Geological Society of America) Today* 32.
- **Seongjin Park**, & Tae-Yeoub Jang. 2016. Acoustic characteristics of English liquids produced by Korean learners of English. *Studies in Phonetics, Phonology and Morphology* 22(2): 289-315.
- **Seongjin Park**, & Tae-Yeoub Jang. 2016. Perception of English intervocalic liquids by Korean learners of English. *Language and Linguistics* 71:53-78.

Published Conference Proceedings:
- **Seongjin Park**, & Rutuja Ubale. 2023. Multitask learning model with text and speech representation for fine-grained speech scoring. *2023 IEEE Automatic Speech Recognition and Understanding Workshop (ASRU)*. Taipei, Taiwon.
- **Seongjin Park**, Aaron Albin, Rutuja Ubale. 2023. A punctuation restoration system for L2 speech using text and acoustic features. in *Proceedings of SLaTE 2023: 9th ISCA Workshop on Speech and Language Technology in Education*. Dublin, Ireland.
- **Seongjin Park**. 2023. Interpretation of speech rhythm: Speech error, speech rhythm, and speech proficiency. in *Proceedings of the 184th Meeting of the Acoustical Society of America*. Chicago, IL. USA.
- John Culnan, **Seongjin Park**, Meghavarshini Krishnaswamy, & Rebecca Sharp. 2021. Me, myself, and ire: Effects of automatic transcription quality on emotion, sarcasm, and personality detection. in *Proceedings*

of the 11th Workshop on Computational Approaches to Subjectivity, Sentiment & Social Media Analysis (*2021 WASSA*), 250-256. Association for Computational Linguistics.
- **Seongjin Park**, & John Culnan. 2021. Automatic proficiency judgments: Accentedness, fluency, and comprehensibility. in *Proceedings of 181th meeting of the Acoustical Society of America*. Seattle, WA. USA.
- **Seongjin Park**, & John Culnan. 2020. The relationship between word error rate and perceptual judgment. in *Proceedings of 179th meeting of the Acoustical Society of America*. Virtual conference.
- John Culnan, & **Seongjin Park**. 2019. The impact of language transfer on native speaker recognition of native and non-native speech. in *Proceedings of 178th Meeting of the Acoustical Society of America*. San Diego, CA. USA.
- **Seongjin Park**, & John Culnan. 2019. Automatic perceptual judgment using neural networks. in *Proceedings of 178th Meeting of the Acoustical Society of America*. San Diego, CA. USA.
- **Seongjin Park**, & John Culnan. 2019. A comparison between native and non-native speech for automatic speech recognition. in *Proceedings of 177th Meeting of the Acoustical Society of America*. Louisville, KY. USA.
- **Seongjin Park**, Shiloh Drake, Richard A. Southee, Dongdong Zhang, Natasha Warner, & James M. McQueen. 2019. A replication of a test of the metrical segmentation strategy in spoken word recognition. in *Proceedings of 177th Meeting of the Acoustical Society of America*. Louisville, KY. USA.
- Natasha Warner, & **Seongjin Park**. 2018. Spontaneous speech in the teaching of phonetics and speech perception. in *Proceedings of The 2nd International Symposium on Applied Phonetics* (*ISAPh 2018*), 32-38. University of Aizu, Fukushima. Japan.
- Natasha Warner, & **Seongjin Park**. 2018. Conversational Speech Reduction across Languages, Second Languages, and Dialects. in *Proceedings of Hanyang International Symposium on Phonetics and Cognitive Sciences of Language 2018* (*HisPhonCog 2018*), 20-21. Hanyang Institute for Phonetics and Cognitive Sciences of Language. Seoul. Korea.
- **Seongjin Park**, & Natasha Warner. 2018. The Role of Within-Category Duration Differences in Speech Perception. in *Proceedings of Hanyang International Symposium on Phonetics and Cognitive Sciences of Language 2018* (*HisPhonCog 2018*), 79-80. Hanyang Institute for Phonetics and Cognitive Sciences of Language. Seoul, South Korea.
- Natasha Warner, Genesis Hernandez, **Seongjin Park**, & James M. McQueen. 2018. A replication of competition and prosodic effects on spoken word recognition. in *Proceedings of 175th Meeting of the Acoustical Society of America*. Minneapolis, MN. USA.
- **Seongjin Park**, Maureen Hoffmann, Priscilla Shin, & Natasha Warner. 2018. The role of segment probability in perception of speech sounds. in *Proceedings of 175th Meeting of the Acoustical Society of America*. Acoustical Society of America. Minneapolis, MN. USA.
- Cheonkam Jeong, & **Seongjin Park**. 2018. A Corpus-based Study on the Prosodic Features of *com* in Korean. *The 92nd Annual Meeting of the Linguistic Society of America*. Linguistic Society of America, Salt Lake City, UT, USA
- Cheonkam Jeong, & **Seongjin Park**. 2017. The role of prosody in discourse: A case study of Korean *com*. in *Proceedings of Seoul International Conference on Speech Sciences* (*SICSS 2017*), 109-110. The Korean Society of Speech Sciences. Seoul, South Korea.
- **Seongjin Park**, & Tae-Yeoub Jang. 2015. Acoustic Cues to Perception of English Intervocalic Liquids ([l], [ɹ]) by Korean EFL Learners. in *Proceedings of 2015 International Conference on Speech Sciences* (*ICSS 2015*), 179-180. The Korean Society of Speech Sciences. Seoul, South Korea.

Conference Presentations & Posters:
- **Seongjin Park**. 2018. Speech-act classification: observation vs. opinion. *Computational Social Science Mini-Conference*, The University of Arizona, USA.
- **Seongjin Park**, Maureen Hoffman, Pricilla Shin, Natasha Warner. 2017. The role of probability in perception of speech. *8th Annual ASUofA Cognitive Science Conclave*, The University of Arizona, USA.
- Miguel Simonet, Natasha Warner, Dan Brenner, **Seongjin Park**, Maureen Hoffman, & Benjamin V. Tucker. 2017. Processing reduced speech in a second language. *Conversational Speech and Lexical Representations*, Radboud University, Nijmegen. Netherlands.
- Natasha Warner, Miguel Simonet, Dan Brenner, **Seongjin Park**, Maureen Hoffman, Mirjam Ernestus, &

Benjamin V. Tucker. 2017. Comparison of careful vs. conversational speech in Dutch, English, and L2 English. *Conversational Speech and Lexical Representations*, Radboud University Nijmegen. Netherlands.
- Natasha Warner, **Seongjin Park**, Dan Brenner, Benjamin V. Tucker, & Miguel Simonet. 2016. Processing reduced speech across languages and dialects. *7th Annual ASUofA Cognitive Science Conclave*, Arizona State University, USA.

Journal and conference reviewer

Workshop on Speech and Language Technology in Education (SLaTE): Reviewer
INTERSPEECH: Reviewer
Journal of Acoustical Society of America: Reviewer
Journal of Acoustical Society of America Express Letters: Reviewer
Arizona Linguistics Circle Conference: Reviewer
Coyote Paper: Reviewer

Service

Organizer
All about speech reading group *Jul. 2022 - May 2023*
Organized the reading group to share the knowledge on speech-related topics in linguistics and computer sciences

Conference Volunteer
Department of Linguistics, University of Arizona *2016, 2017, 2018, 2019*
Arizona Linguistics Circle

Volunteer
Department of Linguistics, University of Arizona *2016, 2017, 2018, 2019*
Meet Your Major Fair

Consultant
Vox *Feb. 2019*
Provide phonetic knowledge for "Why some Asian accents swap Ls and Rs in English"

Volunteer Instructor
Department of English Linguistics, Hankuk University of Foreign Studies *Jan. 2016, Jun. 2016*
Graduate student seminar

Volunteer Instructor
Seoul Companion *Mar. 2014 – Jun. 2014*
Teacher for underrepresented students

Air traffic controller
R.O.K. Army *Mar. 2009 – Jan. 2011*

Programming/General Skills

Programming Languages: Perl, Python, R, Bash/Shell, Scala, Praat (from scratch); familiar with C, C++, Matlab and Java (can read and tweak)

ASR/Machine Learning libraries: PyTorch, Kaldi, ESPNet, NeMO, Whisper, Keras, SpeechBrain, Huggingface, NLTK, Scikit-learn, SpaCy

General: LaTeX, Linux (Ubuntu), MacOS, Git/Github/Gitlab, Windows/Windows-WSL

Honors & Awards

Recognition Award
Product, Innovation and Development, Educational Testing Service (ETS) *Mar. 2024*

Second place
Valentine AI Hackathon 2024, Educational Testing Service (ETS) *Feb. 2024*

Miyagawa Travel Scholarship
Department of Linguistics, University of Arizona *Dec. 2019*

Departmental Travel Funding
Department of Linguistics, University of Arizona *May 2019*

Research and Project Grant
Graduate & Professional Student Council, University of Arizona *Apr. 2019*

Departmental Travel Funding
Department of Linguistics, University of Arizona *May 2018*

Graduate Research Scholarship for Humanities and Social Sciences
Korean Student Aid Foundation *Mar. 2015*

Graduate Research Scholarship for Humanities and Social Sciences
Korean Student Aid Foundation *Sep. 2015*

Professional Affiliations

International Speech Communication Association: 2022 -

Acoustical Society of America: 2017 -

Languages

Korean (Native), **English** (Professional fluency)