# CHEONKAM JEONG PH.D.

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## **EDUCATION**

#### The University of Arizona

Tucson, AZ

Ph.D. in Linguistics

2018-2024

 Dissertation: The Effects of Lexical Competition on Hyperarticulation of Voice Onset Time and Fundamental Frequency in Korean Stops: Experimental and Big Data Approaches (Advisor: Dr. Andrew Wedel)

• Research areas: Phonology, Computational Linguistics

#### The University of Arizona

Tucson, AZ

M.S. in Human Language Technology

2020-2021

- Internship Report: A semantic analysis of FindingFive support tickets using machine learning-based classifiers (Advisor: Dr. Andrew Wedel)
- Research areas: Natural Language Processing, Machine Learning

#### Hankuk (Korea) University of Foreign Studies

Seoul, South Korea

M.A. in English Linguistics

2015-2017

- Thesis: Noisy Harmonic Grammar Modeling of Flapping in American English Based on a Statistical Analysis (Advisor: Dr. Sung-Hoon Hong)
- Research areas: Phonology, Quantitative Linguistics

#### Hankuk (Korea) University of Foreign Studies

Seoul, South Korea

B.A. in English Linguistics

2010-2015

• Research areas: English Linguistics, Philosophy

#### University of Leicester

Leicestershire, UK

Visiting Student Program

Fall 2013

 Department of English Literature (13th representative scholar sponsored by MIRAE ASSET)

Professional Experience **Postdoctoral Scholar - AI/ML Lead** Sue & Bill Gross School of Nursing, University of California, Irvine

Irvine, United States

2024-Present

• Research areas: Healthcare AI/ML, NLP, Reinforcement Learning

#### **Visiting Scholar**

Department of Computer Science, Purdue University

West Lafayette, United States

2024-Present

• Research areas: NLP, Reinforcement Learning

#### **PUBLICATIONS**

- 1. Pyarelal, A., Culnan, J. M., Qamar, A., Krishnaswamy, M., Wang, Y., Jeong, C., Chen, C., Miah, M. M. M., Hormozi, S., Tong, J., & Huang, R. (2025). MultiCAT: Multimodal communication annotations for teams. In *Proceedings of the 2025 Annual Conference of the Nations of the Americas Chapter of the Association for Computational Linguistics (NAACL)*. Association for Computational Linguistics. Proceedings available here.
- 2. Dumitru, R., Alexeeva, M., Alcock, K., Ludgate, N., Jeong, C., Abdurahaman, Z. F., Puri, P., Krichhoff, B., Sadhu, S., & Surdeanu, M. (2024). Retrieval augmented generation of subjective explanations for socioeconomic scenarios. In *Proceedings of the Sixth Workshop on Natural Language Processing and Computational Social Science (NLP+CSS)*, pages 68–85, Mexico City, Mexico. Association for Computational Linguistics. Proceedings available here.
- 3. **Jeong, C.,** & Wedel, A. (2024). Applying big data and automation techniques in phonetics: A case study on hyperarticulation in Korean word-initial stops. In *Proceedings of the 19th Conference on Laboratory Phonology (LabPhon 19)*. Hanyang University, Seoul, South Korea. Proceedings available here.

- 4. Kwak, A., Jeong, C., Vincent Forte, G., Bambauer, D., Morrison, C. T., & Surdeanu, M. (2023). Information extraction from legal wills: How well does GPT-4 do? In *Findings of the Association for Computational Linguistics: EMNLP 2023*, Singapore. Association for Computational Linguistics. Proceedings available here.
- 5. Jeong, C., Schmitz, D., Kakolu Ramarao, A., Stein, A., & Tang, K. (2023). Linear discriminative learning: A competitive non-neural baseline for morphological inflection. In *Proceedings of the 20th SIGMOR-PHON Workshop on Computational Research in Phonetics, Phonology, and Morphology*, pages 138-150, Toronto, Canada. Association for Computational Linguistics. Proceedings available here.
- 6. **Jeong, C.**, & Wedel, A. (2023). The effect of cue-specific lexical competitors on hyperarticulation of VOT and F0 contrasts in Korean stops. In *Proceedings of the 2022 Annual Meeting on Phonology (AMP)*, Los Angeles, California. Proceedings available here.
- 7. **Jeong, C.,** & Wedel, A. (2023). The effect of cue-specific lexical competitors on hyperarticulation of VOT and F0 contrasts in Korean stops. Poster presented at *Hanyang International Symposium on Phonetics and Cognitive Sciences of Language* 2023 (HISPhonCog 2023). Hanyang University, Seoul, South Korea.
- 8. **Jeong, C.**, & Park, S. (2018). A corpus-based study on the prosodic features of *com* in Korean. Poster presented at 92nd Annual Meeting of Linguistic Society of America (LSA), Salt Lake City, Utah. Proceedings available here.
- 9. **Jeong, C.,** & Park, S. (2017). The role of prosody in discourse: A case study of Korean *com*. In *Proceedings* of 2017 Seoul International Conference on Speech Sciences (SICSS), pages 109-110, Seoul, South Korea. Proceedings available here.
- 10. Data Study Group Team. (2023). Data Study Group final report: Global Witness Identifying unregulated mining sites using historical satellite data (Version 1). Zenodo. Paper available here..
- 11. **Jeong**, C., & Hong, S. (2017). Corpus-based noisy harmonic grammar modeling of word-medial /t/-flapping in American English. *Studies in Phonetics*, *Phonology and Morphology*, 23(1), 117-143. Paper available here..

#### **MANUSCRIPTS**

- 1. **Jeong, C.,** Kim, S., & Park, J. (Under review). Beyond BPM Automation: Verifiable Neuro-Symbolic Agents with Montague Semantics. *The 41st ACM/SIGAPP Symposium On Applied Computing (SAC 2026)*.
- 2. Nyamathi, A., Rasouli, E., Jeong, C., Brunswicker, S., Agapie, E., Ludlow, D., Jawad, A., Khay, N., Lu, L., Ding, C., Liao, F., Farahani, F., Lee, J., Dutt, A., Rahmani, A., & Krogh, P. (Under review). Evaluation of personas and daily activity maps for improved clinical care and training models for effective human-robot interaction for persons with dementia: A qualitative study. *Journal of Medical Internet Research (JMIR)*.
- 3. **Jeong, C.,** & Brunswicker, S. (Under second-round review). LLM alignment for linguistic empathy using direct preference optimization. *The Association for the Advancement of Artificial Intelligence (AAAI)*.
- 4. **Jeong**, C., & Wedel, A. (Under second-round review). The effect of contrast-specific minimal pair competitor in hyperarticulation of VOT and F0 phonetic cues in Korean initial stops in tonogenetic sound change. *Journal of Phonetics*. PHONETICS-D-24-00131.
- 5. (Preprint) **Jeong, C.,** Kim, S., & Park, J. (2025). The algebra of meaning: Why machines need Montague more than Moore's Law. *arXiv preprint*, Paper available here..
- 6. (Preprint) Kwak, A., **Jeong**, C., Lim, J., & Min, B. (2024). A Korean legal judgment prediction dataset for insurance disputes. *arXiv preprint*, Paper available here..
- 7. (Preprint) Yoo, Y., Jeong, C., Gim, S., Lee, J., Schimeke, Z., & Seo, D. (2023). A novel patent similarity measurement methodology: Semantic distance and technological distance. *arXiv preprint*, Paper available here..

## Invited Talks

Jeong, C. (2025, May 20). Introduction to NLP and its Applications in Healthcare. Sue & Bill Gross School of Nursing, University of California, Irvine. Irvine, California, United States

Jeong, C., Darling, M., & Dely, A. (2023). Enterprise AI: How are you addressing the new wave of computing? *Tucson's IT Networking Group LAMBDA*. Tucson, Arizona, United States.

**Jeong, C.,** & Romero, D. (2022). Student internships in industry: Experiences and resources. *The Arizona Research Bazaar* 2022. Tucson, Arizona, United States. <u>Slides</u>

Jeong, C. (2022). 2020 NLP internship at FindingFive. *Master of Science in Human Language Technology*, University of Arizona. Tucson, Arizona, United States.

## **PROJECTS**

## Emotional Intelligence for Empathetic Patient-Robot Interaction in the Setting of Dementia Patients

University of California Noyce Initiative

June 2024–Present

# Global Witness: Identifying unregulated mining sites using historical satellite data Alan Turing Institute, United Kingdom March 2023

#### Korean Education Dataset for Korean as Foreign Language Learners

the Ministry of Science and Information and Communication Technology & the National Information Society Agency in Korea October 2022–May 2023

## Grant and Awards

#### Saturn Cloud NVIDIA Academic Grants

Purdue University

April-December 2025

#### MIRAE ASSET Student Exchange Program Scholarship

MIRAE ASSET, South Korea

2013

#### **Second Distinction**

Department of English Linguistics, Hankuk University of Foreign Studies

2011

#### **MEMBERSHIP**

Association of Computational Linguistics (ACL)

Linguistic Society of America (LSA)

Korean-American Scientists and Engineers Association (KSEA)

## Research Experience

#### **NLP Engineer** | FindingFive, New Jersey

- June-August 2020
- Full-time Intern (40 hours per week), non-paid internship.
- Analyzed customer support ticket distribution using Zoho Desk APIs.
- Employed ML-based classifiers, including non-Neural Network and Neural Network models, to enhance customer service.

#### Research Associate: NLP Engineer, Developer | University of Arizona 2021–2024

- Annotated datasets for Causal Inference tasks and evaluated GPT-4 generated scenarios (Spring 2024).
- Developed Docker Compose files and PostgreSQL databases for efficient data annotation with Prodigy (Fall 2023).
- Collaborated in creating data pipelines for data engineering tasks to facilitate data annotation.
- Manually annotated datasets for Information Extraction from legal wills, including entities, binary relations, and n-ary events (2023).
- Conducted multimodal multitasks combining text and audio data; developed multitask models utilizing NN models and LLMs (2022-2023).
- Collaborated with speech team to improve unsupervised vocal entrainment detection models.
- Performed annotation tasks focusing on sentiment and emotion labeling for multimodal multitask models.

## **Research Associate: Phonetician** | Douglass Phonetics Laboratory, University of Arizona 2021

- Designed and executed an online experiment on the FindingFive research platform
- Administered the experiment via Amazon Mechanical Turk for data collection efficiency and quality

Skills

Languages: English, Korean, Japanese, French.

Programming: Python, R, Praat, SQL, Prolog, Perl.

#### Paper Reviewer for:

### Academic Services

- IEEE Access: Specializing in NLP Papers

July 2023–Present

- Arizona Linguistics Circle 16: Phonetics & Statistical Modeling Proceedings Reviewer 2022
- Journal of Phonetics: Co-reviewer of PHONETICS-D-21-00128 with Dr. Andrew Wedel
- Arizona Linguistics Circle 14, 15: Phonology & Phonetics Coyote Paper Reviewer 2021–2022
- Arizona Linguistics Circle 15: Phonetics & Corpus Linguistics Proceedings Reviewer 2021
- Arizona Linguistics Circle 14: Phonology & Phonetics Proceedings Reviewer 2020
- Arizona Linguistics Circle 13: Phonology Proceedings Reviewer 2019

#### Leadership and Communication:

- NAVER Boost Course: Coaching Study AI Basics 2023 Team Leader January 2023
- FindingFive: Outreach and Marketing Coordinator March-August 2022
- Arizona CatCloud Service: Helped design the service with fellow student leaders.
- Arizona Linguistics Circle 15: Communication Coordinator 2021
- Arizona Linguistics Circle 13: Phonetics Section Chair 2019
- Education Supporter at Seoul Urban Science Technical High School in Seoul, South Korea