

Curriculum Vitae

Hakyung Sung

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CONTACT

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EDUCATIONS

Jun. 2025	University of Oregon <i>Ph.D. Linguistics</i>
Dec. 2024	University of Oregon <i>M.S. Computer Science</i>
Feb. 2018	Seoul National University <i>M.A. English Education</i>
Feb. 2016	Ewha Womans University <i>B.A. English Language and Literature</i>

PROFESSIONAL APPOINTMENTS

Aug. 2025 -	Assistant Professor, Department of Psychology, Rochester Institute of Technology <ul style="list-style-type: none">▪ Joint appointment with the Department of Modern Languages and Cultures▪ Affiliated with Cognitive Science PhD program, Computing and Information Sciences PhD Program (NLP area), Artificial Intelligence MS program, Center for Human-aware AI
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HONORS / AWARDS / SELECTED INTERNAL FUNDING

- *College of Liberal Arts Faculty Research Fund* (2025). Rochester Institute of Technology
- *College of Liberal Arts JumpStart Fund* (2025). Rochester Institute of Technology
- *Professional Development Graduate Scholarship* (2023). University of Oregon
- *Raymund Fellowship* (2021). University of Oregon
- *Promising Scholar Award* (2021). University of Oregon
- *Lockey Graduate Science Award* (2021). University of Oregon
- *Top-off Award in Linguistics Department* (2021). University of Oregon
- *Excellence of Academics* (2017), Seoul National University
- *Scholarship of Graduate Student Instructor* (2017), Seoul National University

EXTERNAL FELLOWSHIP

- PI (2024.9 - 2025.6). *Evaluating argument structure construction-based indices for construct validity in assessing second language grammatical proficiency*. Supervisor: Kristopher Kyle (University of Oregon); Mikyung K. Wolf & Ikkyu Choi (ETS). Harold Gulliksen Psychometric Research Fellowship sponsored by ETS (\$33,000)

GRANTS

- PI (2026.2 - 2027.1). Corpus-based benchmarks to measuring second language Korean sophistication in speaking and writing tasks. Sponsored by the Academy of Korean Studies
- Co-researcher (2024.2 - 2025.1). *Towards inclusive NLP research: Developing language models on second language Korean*. PI: Gyu-Ho Shin (University of Illinois, Chicago). Sponsored by the Academy of Korean Studies (\$13,200)

PEER-REVIEWED PUBLICATIONS

Journal articles

- [J6] **Sung, H.**, & Shin, G-H. (2025). Towards robust morphosyntactic analysis of L2 Korean: Evaluating and fine-tuning a Korean language model. *Transactions on Asian and Low-Resource Language Information Processing*. <https://dl.acm.org/doi/10.1145/3767330>
- [J5] **Sung, H.**, Wolf, MK. Suhan, M, & Kyle, K. (2025). Lexical richness in young English learners' writing: A focus on Opinion and Listen-Write task types. *Assessing Writing*. <https://doi.org/10.1016/j.asw.2025.100975>
- [J4] **Sung, H.**, & Kyle, K. (2025). Usage-based analysis of L2 oral proficiency: Characteristics of argument structure construction use. *Studies in Second Language Acquisition*. <https://doi.org/10.1017/S0272263125100995>
- [J3] **Sung, H.**, Cho, S., & Kyle, K. (2024). An empirical evaluation of lexical diversity indices in L2 Korean writing assessment. *Language Assessment Quarterly*, 1-22. <https://doi.org/10.1080/15434303.2024.2311728>
- [J2] Kyle, K., **Sung, H.**, Eguchi, M., & Zenker, F. (2024). Evaluating evidence for the reliability and validity of lexical diversity indices in L2 oral task responses. *Studies in Second Language Acquisition*, 1-22. <https://doi.org/10.1017/S0272263123000402>
- [J1] **Sung, H.** (2019). Korean EFL learners' processing of English caused-motion construction. *English Teaching*, 74(1), 49-73.

Conference proceedings

- [C10] **Sung, H.**, & Kyle, K. (2025). ASC analyzer: A Python package for measuring argument structure construction usage in English texts. In *Proceedings of the 2nd Workshop on Construction Grammars and NLP (CxGs+NLP)*. <https://aclanthology.org/2025.cxgsnlp-1.5/>
- [C9] **Sung, H.**, Csuros, K., & Sung, M-C (2025). Comparing human and LLM proofreading in L2 writing: Impact on lexical and syntactic features. In *Proceedings of the 20th Workshop on Innovative Use of NLP for Building Educational Applications*. <https://aclanthology.org/2025.bea-1.2/>
- [C8] **Sung, H.**, Shin, G-H., Lee C., Sung, Y-K., & Jung, B-K (2025). UD-KSL Treebank v1.3: A semi-automated framework for aligning XPOS-extracted units with UPOS tags. In *Proceedings of the 19th Linguistic Annotation Workshop (LAW-XIX)*. <https://aclanthology.org/2025.law-1.9/>
- [C7] **Sung, H.**, & Shin, G-H. (2025). Second language Korean Universal Dependency treebank v1.2: Focus on data augmentation and annotation scheme refinement. In *Proceedings of the Workshop on Resources and Representations for Under-Resourced Languages and Domains (RESOURCEFUL-2025)*. <https://aclanthology.org/2025.resourceful-1.4/>
- [C6] **Sung, H.**, & Kyle, K. (2024). Leveraging pre-trained language models for linguistic analysis: A case of argument structure constructions. In *the Association for Computational Linguistics: EMNLP 2024*. <https://aclanthology.org/2024.emnlp-main.415/>
- [C5] **Sung, H.**, & Shin, G-H. (2024). Constructing a dependency treebank for second language learners

- of Korean. In *Proceedings of the International Conference on Language Resources and Evaluation (LREC-COLING 2024)*. <https://aclanthology.org/2024.lrec-main.332/>
- [C4] **Sung, H.**, & Kyle, K. (2024). Annotation scheme for English argument structure constructions treebank. In *Proceedings of the 18th Linguistic Annotation Workshop (LAW-XVIII)*. <https://aclanthology.org/2024.law-1.2/>
- [C3] **Sung, H.**, & Shin, G-H. (2023). Diversifying language models for lesser-studied languages and language-usage contexts: A case of second language Korean. In *Findings of the Association for Computational Linguistics: EMNLP 2023*. <https://aclanthology.org/2023.findings-emnlp.767/>
- [C2] **Sung, H.**, & Shin, G-H. (2023). Towards L2-friendly pipelines for learner corpora: A case of written production by L2-Korean learners. In *Proceedings of the 18th Workshop on Innovative Use of NLP for Building Educational Application*, 72-82, Association for Computational Linguistics. <https://aclanthology.org/2023.bea-1.6/>
- [C1] Kyle, K., & **Sung, H.** (2023). An argument structure construction treebank. In *Proceedings of the Workshop on Construction Grammars and NLP (CxGs+NLP, GURT)*, 51–62, Association for Computational Linguistics. <https://aclanthology.org/2023.cxgsnlp-1.7/>

WORKSHOP

- **Sung, H.** & Kyle, K. (Sep. 2024). *The construction of high-quality manually annotated datasets for fine-tuning LLMs for automatic linguistics analyses*. Workshop at 16th American Association for Corpus Linguistics Conference (AACL 2024). Eugene, OR.

PRESENTATIONS

Main presenter

- [13] **Sung, H.**, & Kyle, K. (April. 2026). *Leveraging masked language models to measure association strength in contiguous and dependency bigrams*. Poster presenting at AACL 2026. Gainesville, FL.
- [12] **Sung, H.**, & Shin, G-H. (April. 2026). *Measuring lexical complexity in L2-Korean writing through a morpheme-aware approach*. Paper presenting at AACL 2026. Gainesville, FL.
- [11] **Sung, H.**, & Kyle, K. (Sep. 2025). *Evaluating grammatical complexity in L2 writing: Introducing the Argument Structure Construction Analyzer*, Paper presenting at SLRF 2025, Flagstaff, AZ.
- [10] **Sung, H.**, & Shin, G-H. (Jun. 2025). *To what extent do lexical richness indices explain learner proficiency? An example from L2-Korean writing*. Paper presenting at EuroSLA 34, Tromsø, Norway.
- [9] **Sung, H.**, & Wolf, M., Suhan, M., & Kyle, K. (Mar. 2025). *Investigating the lexical characteristics of young EFL students' writing across different test tasks*. Paper presenting at AAAL 2025. Denver, CO.
- [8] **Sung, H.**, & Kyle, K. (Sep. 2024). *Building a robust argument structure construction (ASC) treebank and an automatic ASC tagger*. Paper presenting at AACL 2024. Eugene, OR.
- [7] **Sung, H.** (Apr. 2024). *Exploring the relationship between argument structure construction usage and L2 English proficiency*. Paper presenting at LARC 2024. Provo, UT.
- [6] **Sung, H.**, & Kyle, K. (Mar. 2024). *The relationship between L2 oral proficiency interview scores and characteristics of argument structure construction use*. Paper presenting at AAAL 2024. Houston, TX.
- [5] **Sung, H.**, & Shin, G-H. (Sep. 2023). *Comparison of morphological analyzers for L2-Korean written corpora*. Poster presenting at EuroSLA 32, Birmingham, UK.

- [4] **Sung, H.**, & Kyle, K. (May. 2023). *Automatic identification of motion constructions in L1 and L2 English spoken corpora*. Paper presenting at ICCG12. Prague, Czech Republic.
- [3] **Sung, H.**, & Kyle, K. (Mar. 2023). *Exploring evenness lexical diversity indices in L2 written and spoken corpora*. Paper presenting at AAAL 2023. Portland, OR.
- [2] **Sung, H.** (Sep. 2022). *On the development of motion constructions of Korean L2 English learners: A cross-sectional spoken corpus-based study*. Paper presenting at AACL 2022. Flagstaff, AZ.
- [1] **Sung, H.**, & Cho, S. (Aug. 2022). *Evaluating lexical diversity of Korean as a second language learners' writing using NLP tool*. Paper presenting at EuroSLA 31. Fribourg, Switzerland.

Not main presenter

- [10] Egbert, J., & **Sung, H.** (Mar. 2026). *Register as a predictor of argument structure construction use*. Paper presenting at AAAL 2026. Chicago, IL.
- [9] Kyle, K., **Sung, H.**, Biber, D., Reppen, R., & Egbert, J. (Mar. 2025). *The development and evaluation of an open-source lexicogrammatical complexity analysis tool: The Lexicogrammatical Tagger*. Paper presenting at AAAL 2025. Denver, CO.
- [8] Diantoro, C., **Sung, H.**, & Baese-Berk, M. (May. 2024). *Differences in prominence-related acoustic measurements in L2 read speech as a function of L1 framing typology*. Poster presenting at ASA. Ottawa, Canada.
- [7] Kyle, K., **Sung, H.**, & Eguchi, M. (Mar. 2024). *Identifying lexico-grammatically ambiguous language features using large language models*. Invited colloquium at AAAL 2024. Houston, TX.
- [6] Kyle, K., & **Sung, H.** (Mar. 2024). *The relationship between L2 holistic writing proficiency scores and characteristics of argument structure construction use*. Paper presenting at AAAL 2024. Houston, TX.
- [5] Kyle, K., & **Sung, H.** (May. 2023). *Robust automatic annotation of argument structure constructions*. Paper presenting at ICCG12. Prague, Czech Republic.
- [4] Kyle, K., **Sung, H.**, Eguchi, M., & Zenker, F. (Mar. 2023). *The reliability and validity of lexical diversity indices in second language oral productions*. Paper presenting at AAAL 2023. Portland, OR.
- [3] Diantoro, C., **Sung, H.**, & Baese-Berk, M. (Mar. 2023). *Comparing stress patterns of verbs and satellites in L1/L2 spoken corpora based on framing typology*. Poster presenting at AAAL 2023. Portland, OR.
- [2] Kyle, K., **Sung, H.**, Eguchi, M., & Zenker, F. (Sep. 2022). *Evaluating the reliability and validity of lexical diversity indices in second language oral corpora*. Paper presenting at AACL 2022. Flagstaff, AZ.
- [1] Cho, S., & **Sung, H.** (Sep. 2022). *Investigating lexical diversity in L2 Korean writing: Focusing on multiple indices and Korean tokenizers*. Paper presenting at AACL 2022. Flagstaff, AZ.

THESIS

- Sung, H. (2025). *Measuring lexicogrammatical complexity and sophistication in second language English production: Development and validation of argument structure construction-based indices*. (Unpublished doctoral dissertation). University of Oregon. Advisor: Dr. Kristopher Kyle. <https://scholarsbank.uoregon.edu/items/d762cf19-f3c8-47a0-9357-73f1b5f549d8>
- Sung, H. (2018). *Korean EFL learners' processing of English caused-motion construction*. (Unpublished master's thesis). Seoul National University. Advisor: Dr. Hyun-Kwon Yang. <https://s-space.snu.ac.kr/handle/10371/142034>

OTHER RESEARCH PRODUCTS

- *English ASC treebank*: The ASC Treebank is a linguistically annotated dataset of argument structure constructions (ASCs), informed by research in the usage-based constructionist approach to language learning. The first version of the treebank includes 26,437 annotated ASC tokens, while the second version contains 22,069 tokens. Developed in collaboration with Kris Kyle (University of Oregon). <https://github.com/LCR-ADS-Lab/ASC-Treebank>
- *English ASC analyzer*: The ASC analyzer is a publicly available Python package designed to automatically tags ASCs and computes 50 indices that capture diversity, proportion, frequency, and ASC-verb lemma association strength. Developed in collaboration with Kris Kyle (University of Oregon). <https://github.com/hksung/ASC-analyzer>
- *UD Korean-KSL*: This UD Korean-KSL is a dependency treebank of L2 Korean, featuring morpheme and Universal Dependency manual annotations. The latest version includes ~15K manually annotated sentences from the written data produced by L2-Korean learners at various proficiency levels, with the dataset continuing to grow. Developed in collaboration with Gyu-Ho Shin (University of Illinois, Chicago): https://github.com/UniversalDependencies/UD_Korean-KSL/tree/dev
- *Korean lexical diversity python package*: The Korean lexical diversity python package extended the previous TAALED (Kyle et al., 2021) tool to calculate a variety of lexical diversity indices for Korean. As an agglutinative language, Korean requires morpheme-level parsing, so we provide parsers that segment text at both the word and morpheme levels. Developed in collaboration with Sooyeon Cho (Zurich University of Applied Sciences): <https://github.com/NLPxL2Korean/Korean-Lexical-Diversity>

TEACHING EXPERIENCE

UG: Undergraduate, G: Graduate

- Rochester Institute of Technology
 - PSYC-681 *Natural Language Processing and Large Language Models I* (G, Spring 26)
 - LING-351 *Language Technology and Large Language Models* (UG, Fall 25)
 - LING-581 *Natural Language Processing I* (UG, Fall 25)
- University of Oregon
 - LING-150 *The Structure of English Words* (UG, Fall 24)

MENTORING EXPERIENCE

- Rochester Institute of Technology
 - Moll, Sam (UG, BS/MS in Computer Science; Sep. 2025-). Honors option research.

PROFESSIONAL EXPERIENCE

Jun. 2024 - Summer Intern, ETS
Jul. 2024

Jun. 2022 - Summer Intern, The American Council on the Teaching of Foreign Languages (ACTFL)
Aug. 2022

Oct. 2021 - Electronic Resources Student Assistant, University of Oregon Library
 Sep. 2022

Mar. 2020 - English Teacher, Daewon Foreign Language High Schools, South Korea
 Feb. 2021

Mar. 2018 - English Teacher, Gyeonggi Academy of Foreign Languages, South Korea
 Feb. 2021

PROFESSIONAL SERVICES

Upon request *Ad-hoc* Reviewer (Journal manuscript; [†]Conference proceeding; ^{††}Conference abstract)

- *Bilingualism: Language and Cognition*
- *Cognitive Computation*
- *Corpus Pragmatics*
- *Language Assessment Quarterly*
- *Language Learning*
- *Language Resources and Evaluation*
- *Language Teaching Research*
- *International Review of Applied Linguistics in Language Teaching*
- *Journal of Second Language Writing*
- *Research Methods in Applied Linguistics*
- *Studies in Second Language Acquisition*
- *System*
- *Transactions on Asian and Low-Resource Language Information Processing*
- [†]*ASSOCIATION FOR COMPUTATIONAL LINGUISTICS Rolling Review*
- [†]*Linguistic Annotation Workshop*
- [†]*Midwest Association of Language Testers (MwALT) Best Student Paper*
- [†]*Workshop on Innovative Use of NLP for Building Educational Application*
- ^{††}*International American Association for Corpus Linguistics (AACL) Conference*
- ^{††}*The Second Language Research Forum (SLRF)*

Dec. 2024 - Student Editorial Board Member, *Journal of Second Language Writing*

Sep. 2024 Conference Committee, the 16th *American Association for Corpus Linguistics Conference*

Jan. 2022 - Graduate Student Faculty Representative Liaison, Linguistics, University of Oregon
 Jun. 2023

Mar. 2017 - Graduate Student Instructor, Seoul National University
 Feb. 2018

OTHER SKILLS

- Languages: Korean (Native), English (Advanced), Spanish (Basic)
- Programming Languages: Python, R
- Documentation/Typesetting: LaTeX, Markdown