

Junghyun Min

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SKILLS & SERVICE

- Programming Languages:** Python (proficient), Java, JavaScript, C++, R, Unix shell, SAS, SQL, Wolfram.
- Software Development:** PyTorch, TensorFlow, transformers. Flask, FastAPI, async, GCP, Docker, Hydra, Git.
- LLM Use:** OpenAI, LangChain, RAG, prompt engineering, vLLM, quantization, distributed training, TorchServe.
- Natural Languages:** Korean, English (fluent), German, Mandarin Chinese (intermediate).
- Service:** Reviewer; *ACL, Language Resources and Evaluation, Machine Learning Engineering. Host, NACLO.

EDUCATION

Georgetown University	Washington, DC
Ph.D. Computer Science and Linguistics. Advisor: Ethan Wilcox.	Exp. 2029
Johns Hopkins University	Baltimore, MD
M.A. Cognitive Science. Advisor: Tal Linzen.	Dec 2020
B.S. Physics, second major in Mathematics. General Honors, early graduation.	Dec 2017

WORK EXPERIENCE

University of Toronto	Toronto, ON
Visiting Researcher, Computer Science	May 2025 – Aug 2028
• Annotated, analyzed parallel machine translation error datasets in 4 Sinitic languages. Supervised 5 student researchers.	
• Trained the first monolingual Cantonese model. Compiled 7-task Cantonese NLU benchmark, evaluated LLMs.	
• Performed large-scale verification of a novel training objective across architecture, language, and resource availability.	
NCSOFT	Seongnam, Korea
Natural Language Processing Engineer, Language Artificial Intelligence Lab	Jan 2021 – Apr 2024
• Implemented and trained tokenizers for the Language Model Task Force, precursor to the 1.3-13B VARCO LLMs .	
• Deployed efficient and scalable Stanza-like RESTful API, parsing 10k requests per sec on 4GB VRAM at 96% acc.	
• Served fast machine learning models for knowledge retrieval via Docker and TorchServe, processing 30+ sents per sec.	
• Designed granularity ctrl algorithm in info extraction with syntax parse, boosting performance (+30%p) and stability.	
• Built an automatic pipeline that parses current financial news articles to extract and rank events across a period.	
• Introduced punctuation restoration as pre-training objective (+11%p), format loss and forced decoding (+8%p) in fine-tuned relations, entity discovery models in finance and biochemistry for downstream product applications.	

SELECTED TECHNICAL PROJECTS

Lead, Visual grounding and word choice in computer vision-language models.

- Designed vision-language model pipeline to measure word choice variation by image input in 35k image-caption pairs.
- Proposed VLMs possess super-human sensitivity to visual features, bimodal distribution in preposition grounding.

Co-lead, LLM legal interpretation.

- Implemented LLM legal interp. judgment extraction tool with vLLM. [Oral presentation](#), NLLPW at EMNLP 2025.
- Showed even large (70B) and commercial LLMs are sensitive to surface form, lack alignment to human judgment.

Lead, Multimodal text-prosody model for entropy estimation.

- Developed 3-modal transformer architecture for syntactic structure prediction with multimodal text and audio input.
- Measured entropy reduction in predicting syntax with modal features like text (-74%), duration (-3%), pause (-1.7%).

Other engineering projects.

- **Lead engineer, ai.ly.** Fine-tuned and deployed a GPT-based AI lyricist that generates lyrics tailored to the user's preferences. Accumulated 50k+ visits over 3 months of service and cross-functional collaboration. [Hip-hop sample](#).
- **Lead engineer, genDOC.** Built RAG-based agentic document automation software with LangChain on OpenAI API.

SELECTED PUBLICATIONS

- Minho Lee, **Junghyun Min**, Yerang Kim, Woochul Lee, Yeonsoo Lee. FrontierIR at AAAI 2026. [Structured Language Generation Model: Loss Calibration and Formatted Decoding for Knowledge Retrieval and Robust Structure Prediction](#).
- **Junghyun Min**, Minho Lee, Woochul Lee, Yeonsoo Lee. RepL4NLP at NAACL 2025. [Punctuation Restoration Improves Structure Understanding without Supervision](#). [Tech blog \(Korean\)](#).
- **Junghyun Min**, R. Thomas McCoy, Dipanjan Das, Emily Pitler, and Tal Linzen. ACL 2020. [Syntactic data augmentation increases robustness to inference heuristics](#). Collaboration with Google Research.