

RESEARCH PROFILE SUMMARY

Aspiring NLP researcher with dual background in linguistics and computer science.

Experienced in fine-tuning and compressing large language models for low-resource Korean NLP.

Passionate about bridging efficiency, factual reliability, and multilingual accessibility in AI systems.

Future Goal: To develop efficient multilingual LLMs bridging underrepresented languages like Korean with global NLP models

EDUCATION

Jeonbuk National University, Jeonju, Korea

Mar 2020 – Aug 2025

Bachelor of Arts in English Language and Literature

Bachelor of Science and Engineering in Computer Science and Engineering (Double Major)

- SW Convergence J-Point Excellence Scholarship (Spring 2025): Continued merit-based recognition for academic excellence and achievement in software and AI-related studies.
- SW Convergence J-Point Top Excellence Scholarship (Fall 2024): Top-tier merit-based scholarship recognizing outstanding software engineering performance.

Brunel University London, United Kingdom

Jan 2024 – Feb 2025

English Language Program (Short-Term Intensive), focused on academic writing and global communication.

RESEARCH INTEREST

- Multilingual and low-resource Natural Language Processing (cross-lingual transfer, representation learning)
- Efficient and lightweight large language models (knowledge distillation, parameter-efficient fine-tuning)
- Reliability and factual consistency in dialogue and generative systems
- Vision-language and multimodal learning for socially beneficial AI applications

RESEARCH PROJECTS

Hugging Face Transformer Fine-tuning for Korean NLP (Individual Research Project)

Sep 2025

- Fine-tuned KoBERT, DistilBERT, GPT-2 on emotion-classification and dialogue datasets.
- Applied early stopping + hyper-parameter optimization for faster convergence and stability.
- Compared model coherence and BLEU trade-offs in low-resource Korean text generation.

Mini-BERT: Knowledge Distillation and Model Compression (Individual Research Project)

Sep 2025

- Investigated knowledge distillation and parameter-efficient compression of large models for Korean NLP.
- Applied pruning and low-rank factorization to BERT, achieving ~65% parameter reduction with minimal accuracy loss
- Conducted ablation on different teacher–student architectures to balance inference speed and performance.
- Proposed an efficient model deployment strategy suitable for low-resource research and production settings.

Korean Chatbot Pipeline for Open-domain Dialogue (Individual Research Project)

Aug 2025

- Designed an open-domain conversational AI pipeline using Transformer-based architectures.
- Constructed subword vocabularies with SentencePiece and trained Seq2Seq models under low-resource constraints.
- Evaluated coherence and factual accuracy using BLEU and human evaluation metrics.

- Built a mobile-based emotional support system for aged-out foster youth using KoBERT emotion classification.
- Generated diary summaries and empathetic responses via KoBART fine-tuning and polyglot-ko.
- Integrated emotion tracking and peer-support features, emphasizing social impact through NLP

TECHNICAL SKILLS

Programming: Python, Java, JavaScript, C, Dart

Machine Learning & Data Science: PyTorch, Scikit-learn, NumPy, Pandas, XGBoost, CatBoost, Seaborn, Matplotlib

Natural Language Processing: Hugging Face Transformers, LoRA/QLoRA, RAG

Frameworks & Tools: Jupyter Notebook, Google Colab, Git, Streamlit, React, Flutter

Certifications: DP-900 (MS Azure Data Fundamentals, Jan 2025), ADsP (Advanced Data Analytics Semi-Professional, Nov 2024)

AWARDS & HONORS

[AI / Data Science Competitions]

- National Finalist & Awardee | *FIN:NECT Challenge 2025* | Fintech Center Korea, KakaoBank **Aug 2025**
- 2nd Prize | *Jeonbuk State Public Data Utilization Startup Competition 2025* | Jeonbuk State, Korea **Jul 2025**
- Finalist | *LG Aimers 6th AI Hackathon* | LG AI Research **Feb 2025**
- Woori Bank President's Award | *2nd Jeonbuk Youth Big Data Competition* | Woori Bank, Korea **Dec 2024**
- 2nd Prize | *Culture, Sports, and Tourism Data Utilization Competition* | Korea Culture & Tourism Institute **Dec 2024**
- 1st Prize | *3rd Shinhan Big Data Hackathon - Banking Division* | Shinhan Financial Group, Korea **Nov 2024**
- COSS Chairman's Award | *CO – SHOW 2024* | Ministry of Education, NRF, COSS **Nov 2024**

[Start-up / Innovation Awards]

- Excellence Award | *2nd Startup Idea Competition* | JBNU Software University **Nov 2024**
- Encouragement Prize | *1st Honam SW Startup Idea Competition* | ITTP, JBNU Software University **Sep 2024**
- Grand Prize | *Convergence Idea Contest 2023* | JBNU Dept. of English Language and Literature **Dec 2023**

EXPERIENCE

Modulabs – Remote (Seoul, Korea)

Jul 2025 – Jan 2026

AI Research Trainee (Natural Language Processing Focus)

- Applied machine learning and deep learning techniques to real-world datasets in NLP and computer vision.
- Built and fine-tuned text classification and emotion analysis models using PyTorch and Hugging Face Transformers.
- Conducted experiments on CNNs and transfer learning for cross-domain visual understanding.
- Designed preprocessing and visualization pipelines (Python, Pandas, Matplotlib) to support model evaluation.

JBNU Cognitive Computing Lab (Jeonju, Korea)

Jul 2022 – Feb 2025

Undergraduate Student Researcher

- Participated in NLP and deep learning seminars, critically reviewing state-of-the-art models (Transformer, BERT, etc.) to identify limitations in contextual representation learning.
- Contributed to an industry–academic project on Neural Radiance Fields (NeRF), implementing model components for 3D representation learning and conducting baseline experiments for follow-up research.

EXTRACURRICULAR ACTIVITIES

- JBIG (JBNU Big Data & AI Club) | *Club Management Team* **Mar 2025 – Aug 2025**
- CPU (JBNU Computer Science & Programming Club) | *Club Vice President* **Mar 2024 – Dec 2024**
- LIKELION UNIV. JBNU 11th – 12th | *University Representative* **Mar 2023 – Dec 2024**
- JBNU CSE AI Intensified Course (DL / CV / NLP) **Nov 2023 – Dec 2023**