Shinhyeok **Oh**

NLP RESEARCH SCIENTIST - ALTERNATIVE MILITARY SERVICE (JUL 2021 - JUL 2024)

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Summary

I obtained a master's degree in computer and communications engineering from the Kangwon National University, under the guidance of Prof. Harksoo Kim. I am currently working at Riiid as Research Scientist (NLP), and enjoy discussing topics related to transfer learning and knowledge distillation. Specifically, I find pleasure in exploring ways, such as self-supervised learning, domain adaptation, and multi-modality, to extract value from other tasks, domains, or previously overlooked resources for the intended objective.

Education

Kangwon National University *Chuncheon, Republic of Korea*

M.S. IN DEPARTMENT OF COMPUTER AND COMMUNICATIONS ENGINEERING, GPA 4.31 / 4.5 *Sep 2019 - Feb 2021*

Kangwon National University *Chuncheon, Republic of Korea*

B.S. IN DEPARTMENT OF COMPUTER AND COMMUNICATIONS ENGINEERING, GPA 3.86 / 4.5 *Mar 2016 - Feb 2021*

Experience

Riiid *Seoul, Republic of Korea*

NLP RESEARCH SCIENTIST *Dec 2022 - Present*

- Research on Large Language Model
- Research on Automatic Essay Assessment
- Research on Question Generation & Evaluation
- Development of Japanese Question Auto-tagging Model
- Data Analysis and Qualification for Procured Data

Netmarble *Seoul, Republic of Korea*

NLP RESEARCHER & ENGINEER *Apr 2021 - Dec 2022*

- Maintenance on Game NMT Service
- Research on Automatic Post-editing
- Research on Text-to-Speech Synthesis
- Development of Persona Chatbot
- Development of Chatbot with Passage Retrieval

Kakao Enterprise *Seongnam, Republic of Korea*

NLP RESEARCHER (RESEARCH INTERNSHIP) *Sep 2020 - Feb 2021*

- Research on Aspect-based Sentiment Analysis using Self-supervised and Multi-task Learning

NLP Lab (Konkuk University) *Seoul, Republic of Korea*

STUDENT (ADVISOR: PROF. HARKSOO KIM) *Mar 2020 - Sep 2020*

- Research on Persona-based Chatbot
- Development of Korean Language Model

NLP Lab (Kangwon National University) *Chuncheon, Republic of Korea*

STUDENT (ADVISOR: PROF. HARKSOO KIM) *Aug 2018 - Mar 2020*

- Research on Persona-based Chatbot
- Development of Web, Demo, Annotation tool, GPUbot, etc...

Self-employed (using freelancer platform) *Republic of Korea*

DEVELOPER *2018*

- Development of Web, Android, Application Software
- 30+ Projects

Publications

INTERNATIONAL PUBLICATIONS

Multi-Architecture Multi-Expert Diffusion Models

Yunsung Lee*, Jin-Young Kim*, Hyojun Go*, Myeongho Jeong, **Shinhyeok Oh**, *Seungtaek Choi* (*co-first author*)

Arxiv Preprint (Under review)

Addressing Negative Transfer in Diffusion Models

Hyojun Go*, JinYoung Kim*, Yunsung Lee, Seunghyun Lee, **Shinhyeok Oh**, *Hyeongdon Moon, Seungtaek Choi* (*co-first author*)

NeurIPS 2023 (Accepted)

Evaluation of Question Generation Needs More References

Shinhyeok Oh*, *Hyojun Go*, Hyeongdon Moon, Yunsung Lee, Myeongho Jeong, Hyun Seung Lee and Seungtaek Choi* (*equal contribution*)

ACL 2023 (Findings, short)

Cross Encoding As Augmentation: Towards Effective Educational Text Classification

Hyun Seung Lee*, Seungtaek Choi*, Yunsung Lee, Hyeongdon Moon, **Shinhyeok Oh**, *Myeongho Jeong, Hyojun Go, Christian Wallraven* (*equal contribution*)

ACL 2023 (Findings, short)

RWEN-TTS: Relation-aware Word Encoding Network for Natural Text-to-Speech Synthesis

Shinhyeok Oh*, *HyeongRae Noh*, Yoonseok Hong, Insoo Oh* (*equal contribution*)

AAAI 2023 (Oral Presentation)

Netmarble AI Center's WMT21 Automatic Post-Editing Shared Task Submission

Shinhyeok Oh*, *Sion Jang*, Hu Xu*, Shounan An, Insoo Oh* (*equal contribution*)

WMT @EMNLP 2021 (1st place)

Deep Context- and Relation-Aware Learning for Aspect-based Sentiment Analysis

Shinhyeok Oh*, *Dongyub Lee*, Taesun Whang, IlNam Park, Gaeun Seo, EungGyun Kim, Harksoo Kim* (*equal contribution*)

ACL 2021 (Oral Presentation, short)

Improving Document-Level Sentiment Classification Using Importance of Sentences

Gihyeon Choi, **Shinhyeok Oh**, *Harksoo Kim*

Entropy, 2020 (SCIE)

Multi-Turn Chatbot Based on Query-Context Attentions and Dual Wasserstein Generative Adversarial Networks

Jintae Kim, **Shinhyeok Oh**, *Oh-Woog Kwon, Harksoo Kim*

Appl. Sci., 2019 (SCIE)

DOMESTIC PUBLICATIONS

Method of Reflecting Various Personas in a Chatbot

Shinhyeok Oh, *Seokwon Jung, Harksoo Kim*

Journal of KIISE, 2021 (KCI)

Movie Revies Sentiment Analysis Considering the Order in which Sentiment Words Appear

HongJin Kim, Damrin Kim, Boeun Kim, **Shinhyeok Oh**, *Harksoo Kim*

HCLT 2020

Korean Named Entity Recognition Using ELECTRA and Label Attention Network

HongJin Kim, **Shinhyeok Oh**, *Harksoo Kim*

HCLT 2020

Korean Generative Chatbot using Topic Embedding

Shinhyeok Oh, *Harksoo Kim*

HCLT 2020

Personal Characteristics Classifier for Persona Chatbot Research

Shinhyeok Oh, Harksoo Kim, Jeong-Eom Lee, Seona Kim, Youngmin Park, Myungho Noh

KSC 2019

Personalized Multi-Turn Chatbot Based on Dual WGAN

Shinhyeok Oh, Jintae Kim, Harksoo Kim, Jeong-Eom Lee, Seona Kim, Youngmin Park, Myungho Noh

HCLT 2019

Multi-head Attention and Pointer Network Based Syllables Dependency Parser

HongJin Kim, Shinhyeok Oh, Damrin Kim, Boeun Kim, Harksoo Kim

HCLT 2019

Persona Reflection Method for Generative Chatbot System

Shinhyeok Oh, Jintae Kim, Youngmin Park, Seona Kim, Jeong-Eom Lee, Harksoo Kim

KCC 2019

Korean Dependency Parsing Using ELMo and Multi-head Attention

Seongsik Park, Shinhyeok Oh, Hongjin Kim, Sihyung Kim, Harksoo Kim

HCLT 2018

Korean Dependency Parsing using Multi-head Attention and Pointer Network

Seongsik Park, Shinhyeok Oh, Hongjin Kim, Harksoo Kim

HCLT 2018

Honors & Awards

Nov 2021 **1st Place**, Automatic Post-Editing shared task @WMT, EMNLP 2021

Oct 2020 **Special Prize**, Korean Language Information Processing Competition - Chatbot @HCLT 2020

Oct 2020 **Special Prize**, Korean Language Information Processing Competition - Sentiment Analysis @HCLT 2020

Oct 2019 **Bronze Prize**, Korean Language Information Processing Competition - Dependency Parsing @HCLT 2019

Sep 2019 **Gold Prize**, Kangwon SW Festival - @National Program of Excellence in Software

Oct 2018 **Grand Prize**, Korean Language Information Processing Competition - Dependency Parsing @HCLT 2019

Jul 2016 **1st Place**, Department of Computer and Communications Engineering (Rank: 1/97), Spring Semester 2016

Certificate

Certificate of Engineer Information Processing　　　　　　　　　　　　　　　　　　　　*Republic of Korea*

HUMAN RESOURCES DEVELOPMENT SERVICE OF KOREA　　　　　　　　　　　　　　　　　　　　　　*2019*

Skills

- Languages: Python, Java, C, C#, HTML/CSS/JS, Android
- Deep Learning Libs: PyTorch, Tensorflow
- Etc.: Springboot, Gnuboard, Google Cloud Platform

Teaching Experience

2023   **Instructor**, Special Lecture for Freshman (AI Foundation Models) @Kangwon National University   *Republic of Korea*

2022   **Instructor**, Special Lecture for Junior (Career in Artificial Intelligence) @Kangwon National University   *Republic of Korea*

2020   **Teaching Assistant**, Natural Language Processing @LG Uplus   *Republic of Korea*

2018-2019 **Teaching Assistant**, Java Programming, C Programming, App Programing @Kangwon National University   *Republic of Korea*

2017   **Instructor**, Java Programming (Supplementary classes supported by Kangwon National University)   *Republic of Korea*

Academic Activities

- Reviewer of ACL, NAACL, EACL, and ARR
- Reviewer of IEEE Transactions on Audio, Speech and Language Processing