

# Shinhyeok Oh

NLP RESEARCH SCIENTIST

Seoul, Republic of Korea

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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). I enjoy discussing topics related to transfer learning. I find pleasure in exploring ways, such as self-supervised learning, domain adaptation, and multimodality, to extract value from previously unutilized something.

## Education

### Kangwon National University

M.S. IN DEPARTMENT OF COMPUTER AND COMMUNICATIONS ENGINEERING, GPA 4.31 / 4.5

Chuncheon, Republic of Korea

Sep. 2019 - Feb. 2021

### Kangwon National University

B.S. IN DEPARTMENT OF COMPUTER AND COMMUNICATIONS ENGINEERING, GPA 3.86 / 4.5

Chuncheon, Republic of Korea

Mar. 2016 - Feb. 2021

## Experience

### Riiid

NLP RESEARCH SCIENTIST

- Research on Large Language Model
- Research on Automatic Essay Assessment
- Research on Question Generation & Evaluation
- Data Analysis and Qualification for Procured Data

Seoul, Republic of Korea

Dec 2022 - Present

### Netmarble

NLP RESEARCHER & ENGINEER

- 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

Seoul, Republic of Korea

Apr 2021 - Dec 2022

### Kakao Enterprise

NLP RESEARCHER (RESEARCH INTERNSHIP)

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

Seongnam, Republic of Korea

Sep 2020 - Feb 2021

### Konkuk University

STUDENT (ADVISOR: PROF. HARKSOO KIM)

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

Seoul, Republic of Korea

Mar 2020 - Sep 2020

### Kangwon National University

STUDENT (ADVISOR: PROF. HARKSOO KIM)

- Research on Persona-based Chatbot

Chuncheon, Republic of Korea

Aug 2018 - Mar 2020

## Publications

### INTERNATIONAL PUBLICATIONS

#### Multi-Architecture Multi-Expert Diffusion Models

Yunsung Lee\*, Jin-Young Kim\*, Hyojun Go\*, Myeongho Jeong, Shinhyeok Oh, Seungtaek Choi

(\*equal contribution)

Arxiv Preprint (Under review)

#### Addressing Negative Transfer in Diffusion Models

Hyojun Go\*, JinYoung Kim\*, Yunsung Lee\*, Seunghyun Lee, Shinhyeok Oh, Hyeongdon Moon, Seungtaek Choi

(\*equal contribution)

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  
ACL 2023 (Findings)

(\*equal contribution)

## 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  
ACL 2023 (Findings)

(\*equal contribution)

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

Shinhyeok Oh\*, HyeongRae Noh\*, Yoonseok Hong, Insoo Oh  
AAAI 2023 (Oral Presentation)

(\*equal contribution)

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

Shinhyeok Oh\*, Sion Jang\*, Hu Xu\*, Shounan An, Insoo Oh  
WMT @EMNLP 2021 (1st place)

(\*equal contribution)

## 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  
ACL 2021 (Oral Presentation)

(\*equal contribution)

## 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 Reviews 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

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- 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

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### Certificate of Engineer Information Processing

HUMAN RESOURCES DEVELOPMENT SERVICE OF KOREA

Republic of Korea

2019

## Skills

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

## Teaching Experience

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|-----------|---|-------------------|
| 2023      | <b>Instructor</b> , Special Lecture for Freshman (AI Foundation Models) @Kangwon National University            | Republic of Korea |
| 2022      | <b>Instructor</b> , Special Lecture for Junior (Career in Artificial Intelligence) @Kangwon National University | Republic of Korea |
| 2020      | <b>Teaching Assistant</b> , Natural Language Processing @LG Uplus   | Republic of Korea |
| 2018-2019 | <b>Teaching Assistant</b> , Java Programming, C Programming, App Programing @Kangwon National University        | Republic of Korea |
| 2017      | <b>Instructor</b> , Java Programming (Supplementary classes supported by Kangwon National University)           | Republic of Korea |

## Academic Activities

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