

HyeonDey KIM

(+82)1094201422 hyeondey@gmail.com

EDUCATION

The Hong Kong University of Science and Technology Sep 2018 - Sep 2021

Department of Electronic and Computer Engineering

Master of Philosophy (**Thesis supervisor:** Professor Pascale Fung)

Research Interests: Natural Language Understanding, Machine Reading Comprehension, Question Answering, Pre-trained Language Model.

Recipient of postgraduate student scholarship, 200,000 HKD a year (2018-2020)

Teaching assistant for undergraduate course: Computer Organization and postgraduate course: Deep Learning.

Tsinghua University Sep 2012 - Jul 2016

School of Software

Computer Software Major

Bachelor of Engineering (**Thesis supervisor:** Professor Chunping Li)

SKILLS

Programming language: **Python**, C/C++, Javascript, Haskell.

Bilingual in Korean and Chinese, proficient in English

Proficient in ML model development with **PyTorch**

Project experience on BentoML, Docker, Hadoop, and Spark

Research experience on **Natural Language Processing**

Working on Korean language modeling, personalized news recommendation, common sense validation and machine reading comprehension.

PUBLICATIONS

“Korean Language Modeling via Syntactic Guide”

Hyeondey Kim

HKUST Master of philosophy thesis.

**“Generalizing Question Answering System with Pre-trained Language Model Fine-tuning”
MRQA2019**

Dan Su, Yan Xu, Genta Indra Winata, Peng Xu, Hyeondey Kim, Zihan Liu, Pascale Fung

Participated in MRQA shared task, generalized QA system with XLNet, achieved 4th place among 11 teams.

“Learning to Classify the Wrong Answers for Multiple Choice Question Answering”

AAAI2020 Student Abstract

Hyeondey Kim and Pascale Fung

Focusing on multiple choice question answering dataset, proposed Wrong Answer Ensemble to improve performance of fine-tuned transformer.

“Do Not Read the Same News! Enhancing Diversity and Personalization of News Recommendation” WWW22 - UserNLP2022

Sunghwan Choi*, Hyeondey Kim*, Manjun Gim

Contributed to the research as the 1st co-author

Improved the diversity of news recommendation by proposing new personalized model.

“Korean Language Modeling via Syntactic Guide” LREC2022

Hyeondey Kim, Seonhoon Kim, Inho Kang, Nojun Kwak, Pascale Fung

Contributed to the research as the 1st author

Improved the performance of Korean language understanding by proposing the novel pre-training methods for Korean language.

This work was done during the internship in NAVER.

“Skill2Vec: Incorporating Human’s Domain Knowledge to Knowledge Tracing” Ongoing Work

Hyeondey Kim, Yun Jegal, Kyungwoo Song

Contributed to the research as the 1st author

Improving the performance of DKT (Deep Knowledge Tracing) model by giving skill to skill relationship from human experts.

PROJECTS

Commonsense Reasoning

Improving common sense validation with external knowledge

Predicting KRW-USD exchange rate from sequential data

Based on NLP technology, processing the various daily news articles to predict KRW-USD exchange rate.

Korean Language Modeling

Implemented encoder only and encoder-decoder transformer based language models for Korean.

Computer Vision Basic

Implemented computer vision models that include CNN and GAN.

Dialogue understanding and Multiple choice QA

Focusing on DREAM task, improved the performance of BERT

Web spider

Built web engine and web crawler using Cassandra

Database benchmark

Two-benchmark project on HSQL, Cassandra, and Oracle DB

Improvement on xv6 Operating System

Added commands and improved system structure of xv6 by modifying the system’s core

Two pipeline processor sharing memory

Implemented communication function by modifying y86 pipeline processor

Socket Programming - UDP and FTP

MASM Assembly and 51 Single processor embedded programming

Android Health App - Smart Dental

JOB EXPERIENCE

Turing Inc.

May 2022 - present

AI researcher

- Working for research and development on intelligent tutoring system and knowledge tracing system as a skilled industry personnel (산업기능요원) for alternative military service.

Bigpearl Inc.

Aug 2021 - April 2022

ML Engineer

- Working for research and development on news recommendation systems as a skilled industry personnel (산업기능요원) for alternative military service.

NAVER

Dec 2020 - Apr 2021

Research Intern

- Worked in the GPT3 application TF. Conducted research on Korean language modeling.

42Maru

Apr 2020 - Nov 2021

Research Intern

- Worked in technology research team. Conducted research on Commonsense reasoning and question answering. Applied 2 global patents

Seoul National University

Jul 2015 - Sep 2015

Research Assistant

- Worked as a student intern in the Big Data Institute of Seoul National University. Participated in the visualization project of MOGAHA(Ministry of Government and Home Affairs)'s data with Professor Ryu Geun-Kwan.

Nexon Korea

Aug 2016 - Nov 2016

Technical Support

- Worked in the technical support team. Supported on technical issues in mobile games.