

Ikhee Shin

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EDUCATION

University of Michigan

M.S. Electrical and Computer Engineering

Ann Arbor, MI

Aug. 2021 – May 2023

Yonsei University

B.S. Electrical and Electronic Engineering

Seoul, Korea

Mar. 2013 – Aug. 2019

WORK EXPERIENCE

Samsung Research

Seoul, Korea

Research Engineer, Natural Language Processing Lab

Aug. 2019 – July 2021

- **On-device Natural Language Understanding Service** | *C++, Java, Python, TensorFlow*
 - * Built the C++ based app for Samsung Research's on-device natural language understanding service for Bixby, a virtual assistant with more than 10 million active users
 - * Developed the automatic on-device model preparation pipeline for quantized model and model resources
 - * Cooperated with the overseas branch of Samsung Research (America) to train and compress models for Korean and English languages
 - * Decreased the latency of the natural language understanding model by 50% by applying sequence slicing to the BERT model
- **Dialogue State Tracking Research and Development** | *Python, Keras, Flask*
 - * Designed the baseline pre-processing and training code for experiments with span-based dialogue state tracking models, reaching joint accuracy 70% in internal test data
 - * Applied data augmentation and multi-task learning techniques to overcome data sparsity problems, improving the joint accuracy by 5%

NAVER Co.

Seongnam, Korea

Clova Machine Learning Intern, NAVER Clova AI Research

July 2018 – Aug. 2018

- **Animation Character Recommendation System** | *Python, PyTorch, Flask*
 - * Modeled application that extracts face attributes from images and recommends an animated character with similar attributes
 - * Implemented the state-of-the-art multi-label classification models and metric learning such as contrastive and triplet for face attributes classification

NAVER Co.

Seongnam, Korea

Clova Multimedia Intern, NAVER Clova AI Research

Jan. 2018 – June 2018

- **Text-to-Video Development** | *Python, PyTorch*
 - * Devised the baseline pre-processing and training code for the text-to-video model
 - * Implemented the state-of-the-art models such as Obamanet

Republic of Korea Air Force

Seosan, Korea

Sergeant, Ground Operation Center

Feb. 2014 – Feb. 2016

- Cooperated with Air Defense Artillery to protect the force and selected geopolitical assets from an aerial attack

RESEARCH EXPERIENCE

Digital Signal Processing and Artificial Intelligence Lab, Yonsei University

Seoul, Korea

Undergraduate Research Assistant (Advisor: Professor Hong-Goo Kang)

Sept. 2018 – Dec. 2018

- Engineered music source separation based on U-Net style architecture, followed by improving the accuracy of the model by 2% by utilizing self/cross attention

Multimedia Security Lab, Yonsei University

Seoul, Korea

Undergraduate Research Assistant (Advisor: Professor Andrew Beng Jin Teoh)

Aug. 2017 – Jan. 2018

- Initiated the baseline training code for experiments with training varied generated models such as GAN and VAE for image generation
- Applied GAN to semi-supervised training to train the classification model with 10 times fewer data

TECHNICAL SKILLS

Languages: Python, C/C++, Java

Libraries: TensorFlow, Keras, PyTorch

Frameworks: Flask, JMeter