Ikhee Shin

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Interests

Natural Language Processing, Computer Vision, Signal Processing, Machine Learning, Deep Learning

Education

University of Michigan Aug. 2021 – May 2023 (expected)
M.S. Electrical and Computer Engineering *Ann Arbor, MI*

Yonsei University Mar. 2013 – Aug. 2019
B.S. Electrical and Electronic Engineering *Seoul, Korea*

Work Experience

Samsung Research Aug. 2019 – July 2021
Research Engineer, Natural Language Processing Lab *Seoul, Korea*

- **On-device Natural Language Understanding Service** | *C++, Java, Python, TensorFlow*
  - Developed the C++ based app for Samsung Research's on-device natural language understanding service
  - Developed the 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 two languages (e.g. Korean, English)
- **Dialogue State Tracking Research and Development** | *Python, Keras, Flask*
  - Developed the baseline pre-processing and training code for experiments with span-based dialogue state tracking models
  - Applied data augmentation and multi-task learning techniques to overcome data sparsity problems
  - Maintained and co-designed data format and data collection strategy

NAVER Co. July 2018 – Aug. 2018
Clova Machine Learning Intern, NAVER Clova AI Research *Seongnam, Korea*

- **Animation Character Recommendation System** | *Python, PyTorch, Flask*
  - Developed the app that given face images, extracts face attributes, and recommends animation character with common attributes
  - Implemented the state-of-the-art multi-label classification models and metric learning (e.g. contrastive, triplet) for face attributes classification

NAVER Co. Jan. 2018 – June 2018
Clova Multimedia Intern, NAVER Clova AI Research *Seongnam, Korea*

- **Text-to-Video Development** | *Python, PyTorch*
  - Developed the baseline pre-processing and training code for the text-to-video model
  - Implemented the state-of-the-art models (e.g. Obamanet) and applied it to internal data

Republic of Korea Air Force Feb. 2014 – Feb. 2016
Sergeant, Ground Operation Center *Seosan, Korea*

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

Research Experience

Digital Signal Processing and Artificial Intelligence Lab, *Yonsei University* Sept. 2018 – Dec. 2018
Undergraduate Research Assistant (Advisor: Professor Hong-Goo Kang) *Seoul, Korea*

- Implemented music source separation based on U-Net style architecture, followed by improving the model by utilizing self/cross attention

Multimedia Security Lab, *Yonsei University* Aug. 2017 – Jan. 2018
Undergraduate Research Assistant (Advisor: Professor Andrew Beng Jin Teoh) *Seoul, Korea*

- Developed the baseline training code for experiments with training varied generated models (e.g. GAN, VAE) for image generation
- Applied GAN to semi-supervised Training

Technical Skills

Languages: Python, C/C++, Java
Libraries: TensorFlow, Keras, PyTorch
Frameworks: Flask, JMeter