Seyoung **Bae**

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"Grow everyday, dream every night."

Education

Kwangwoon University   *Seoul, South Korea*

SENIOR, MAJOR IN ELECTRONIC COMMUNICATION AND ENGINEERING DEPT, MINOR IN DATA SCIENCE   *Mar. 2014 - Feb. 2021(Expected)*

- Major GPA of x.xx/4.5, Minor GPA of x.xx/4.5

Work Experience

Republic of Korea Air Force   *Republic of Korea*

AIR DEFENCE GUIDED MISSILE MECHANIC   *May. 2016 - May. 2018*

- Served at Air Defense Missile Command, 3rd brigade.

Project Experience

Korean-English Speech Translation System

TEAM LEADER   *Jul. 2020 - Present*

- The goal is to establish a speech translation system by combining speech recognition system and machine translation technology
- Implement Transformer model proposed in "Attention is all you need"
- Interlocking speech recognizer and machine translator

KoSpeech

TEAM MEMBER   *Oct. 2019 - Present*

- Open source project for character-based Korean end-to-end automatic speech recognition
- Using a Korean speech corpus, KsponSpeech, opened in AI Hub.
- Recorded model performance of **10.31%** CER(Character Error Rate) with sampled test data
- Preprocess AI Hub corpus by method which designed by self
- Got more than **60 stars** on the GitHub.

2019 Naver A.I Hackathon - Speech

TEAM MEMBER   *Sep. 2019 - Oct. 2019*

- **Ranked 12/100** in Korean speech recognition competition hosted by Naver Corp. (2nd ranked, only considering undergraduated teams)
- Used 100 hours of limited data, provided by Naver Corp.
- Recorded model performance of **24.67%** CER(Character Error Rate)
- Improved model performance by trying various methods of feature extraction, and introduction of convolution layer to the encoder

Side Project

AUTHOR   *Jul. 2019 - Present*

- Multi-User Chatting Program with Multiprocess, Multithread, Select - 2020, Spring
- Smart IoT Home Platform - 2020, Spring
- KoNPron, which converts numeric expressions into Korean phonetic transcription - 2020, Spring
- Review-based Wine Recommendation - 2019, Fall
- Filtering Program for Advertisements in Naver's Top 20 Trending Search Terms List - 2019, Fall
- Correlation Analysis Program with Naver, Daum, Google's Trending Search Terms - 2019, Fall
- Marking Target Places with User's Search Tags via Google Maps & GPS Coordinates - 2019, Summer
- Cloud File Transfer Service Program via TCP/IP - 2019, Summer

Research Interest

Speech Recognition

END-TO-END

- Research on the automatic speech recognition in Korean
- Research on the improvement of recognition model performance at actual applying conditions
- Research on the real-time application methods of end-to-end models

Speaker Identification

VERIFICATION

- Research on the improvement of speaker identification accuracy
- Research on the real-time identification
- Applying speaker identification with speech recognition, perspective of information security
- Advancing identification methods to multi-user circumstances

Speech Synthesis

GAN, GENERATING DATA

- Research for generating data via speech synthesis

Voice Activity Detection

VAD, END-TO-END

- Research on real-time detecting starting/ending point of actual speech in end-to-end methods
- Research on noise deletion using VAD for data preprocessing

Extracurricular Activity

Deep Learning Principle Study Group

GROUP MEMBER   *Jan. 2020 - June. 2020*

- Joined a study group studying basics of deep learning with mathematics.
- Implemented nodes from scratch using Numpy and Pandas, and read papers
- Study audio signal processing

TALK ON SEMINAR - Audio Classification and Speech Recognition Using Deep Learning

ATTENDEE   *28. May. 2020*

- Reviewing deep learning foundations
- Methods of audio classification & tagging
- Sequence modeling with CTC
- Practice LAS on Google CoLab environment

Network Programming Study Group

GROUP MEMBER   *Jun. 2019 - Aug. 2019*

- Joined a study group studying network programming hosted by the Computer Communication Laboratory of Kwangwoon University
- Study Data Communication, Computer Network and Network Programming

Skills

Programming	Arduino, C, C++, Java, Python, Raspberry pi, SQL
Deep Learning	Pytorch
Languages	Korean, English

Honors & Awards

AWARDS

2019	**12th Ranked**, 2019 Naver A.I Hackathon - Speech
2019	**Finalist**, Idea Contest - Kwangwoon University software start-up idea contest - Fall

HONORS

2020	**Academic Excellence Scholarship**, Kwangwoon University, Spring Semester
2019	**Academic Excellence Scholarship**, Kwangwoon University, Fall Semester
2019	**Academic Excellence Scholarship**, Kwangwoon University, Spring Semester