



Soohwan Kim

AI RESEARCH ENGINEER · SOFTWARE ENGINEER

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"I dream of talking to artificial intelligence."

About Me

Current Co-founder and AI Research Engineer of TUNiB Inc. Former AI Research Engineer at Kakao Brain. I majored in Electronic & Communication Engineering and minored in Data Science at Kwangwoon university. My research interests include technologies for human-machine interaction, such as automatic speech recognition, speech synthesis, and open-domain dialogue. I enjoy software development and sometimes like to write my knowledge or thoughts. I want to be helpful to others through open source. You can check my github page (<http://github.com/sooftware>) to see what I am currently up to.

Education

Kwangwoon University

Seoul, South Korea

BACHELOR OF ENGINEERING IN SCHOOL OF ELECTRONIC AND COMMUNICATION ENGINEERING

Mar. 2014 - Feb. 2021

- **Major GPA** : 3.90 / 4.5 / **Total GPA** : 3.67 / 4.5
- **Major/Minor Courses**: Capstone Design I-II, AI & Speech Signal Processing, Software Design, Machine Learning, Computer Architecture, Operating System, Data Structure & Algorithm, Data Mining, Network Programming, IoT System Design, Big Data Language, Big Data Processing & Application, Database, Digital Signal Processing, Statistical application, Object-Oriented Programming, Object-Oriented Programming Practice, Open-Source Software, System Programming, C programming, Mobile Programming, Data Communication, Computer Network, Basic Electronic Circuit Experiment I-II, Electronic Circuit Experiment I-II, Electronic Circuit Theory I-II, Digital Logic, Physics Electronic Technology, Engineering Math I-II, Probability and Irregular Signaling Theory, Probability and Statistics

Professional Experience

TUNiB Inc.

Gangnam, Seoul

CO-FOUNDER, AI RESEARCH ENGINEER

Mar. 2021 - Present

- Create conversational digital humans who people emotionally engage with.
- Research and develop the latest NLP technology.
- Webpage: www.tunib.ai [link]

Kakao Brain

Pangyo, Gyeonggi

AI RESEARCH ENGINEER

Nov. 2020 - Mar. 2021

- Research & develop speech and natural language processing fields
- Development PORORO: Platform Of neuRal mOdelS for natuRal language prOcessing [link]

Internships

Kakao Brain

Pangyo, Gyeonggi

AI RESEARCH INTERN

Aug. 2020 - Nov. 2020

- Research & Development of automatic speech recognition models
- Development of multilingual speech synthesis model with support for twelve Languages

Spoken Language Lab (of Sogang Univ.)

Mapo, Seoul

UNDERGRADUATE RESEARCHER

Apr. 2020 - Aug. 2020

- Studies speech recognition techniques based on various machine learning algorithms (e.g. deep learning). [link]
- Research End-to-End Automatic Speech Recognition Models

Military Service

ROKMC Served and discharged from Republic of Korea Marine Corps as Signaller, Sergeant, 2015.09 - 2017.06

Publication

2021 **KoSpeech: Open-Source Toolkit for End-to-End Korean Speech Recognition**, ELSEVIER, SIMPAC

2020 **End-to-End Speech Recognition Models in English, Korean and Chinese**, Bachelor's Graduation Thesis

Project Experience

PORORO: Platform Of neuRal mOdelS for natuRal language prOcessing

MAINTAINER, TEAM MEMBER

Kakao Brain

Sep. 2020 - Mar. 2021

- PORORO performs Natural Language Processing and Speech-related tasks. [link]
- It is easy to solve various subtasks in the natural language and speech processing field by simply passing the task name.

Multilingual Text-To-Speech

THE PERSON IN CHARGE

Kakao Brain

Oct. 2020 - Feb. 2021

- Development of a model that supports multilingual Text-To-Speech.
- Supports 11 multi-language, Cross-lingual Voice Style Transfer, and Code-Switching functions. [link]

English, Chinese, and Korean End-to-End Automatic Speech Recognition

THE PERSON IN CHARGE

Kakao Brain

Aug. 2020 - Oct. 2020

- Listen, Attend and Spell, Transformer, and Wav2vec 2.0 Model experiments
- Speech recognition speed and performance comparison by output-units (character, grapheme, etc.)

KoSpeech: Open-Source Toolkit for End-to-End Korean Speech Recognition

TEAM LEADER

Kwangwoon Univ.

Jan. 2020 - Feb. 2021

- Modular and extensible end-to-end Korean automatic speech recognition (ASR) toolkit
- It is the most popular Korean speech recognition task in GitHub. [link]

Extracurricular Activity

Speech Paper Reading

GROUP MEMBER

Study

Dec. 2020 - Present

- Weekly meeting where people who work in the field of Speech gather and read papers.
- Reading a paper and summarizing its contents [link]

NLP Paper Reading

GROUP MEMBER

Study

Sep. 2020 - Feb. 2021

- Kakao Brain Natural Language Processing Team's weekly paper reading study
- Reading a paper and summarizing its contents [link]

Technical Blog

WRITER

Blog

Aug. 2018 - Present

- Technical posting of deep learning, programming, signal processing, paper review etc.
- Having more than 100 subscribers and an average of 200 visitors a day [link] [link]

Skills

Programming Python, Java, C/C++, Shell Script, SQL, Android, Arduino, Assembly, HTML

Deep Learning PyTorch, Tensorflow, Keras, Fairseq, Transformers, PyTorchLightning, Wav2letter, Faiss, Hydra

Data Analysis Numpy, Pandas, Matplotlib, Seaborn, Scikit-learn, BeautifulSoup, Selenium, NLTK

Awards & Honors

AWARDS

- 2020.11 **President's Award (1st Place)**, Kwangwoon Engineering Festival
- 2020.11 **People's Choice Award**, Kwangwoon Engineering Festival
- 2019.10 **Finalist (12th Place)**, Naver A.I Hackathon - Speech
- 2019.09 **Finalist**, Kwangwoon University software start-up idea contest - Fall
- 2019.04 **People's Choice Award**, Kwangwoon University software start-up idea contest - Spring
- 2018.08 **Best Award**, Samsung Multi-Campus in Java-based Algorithm for SW Development

HONORS

- 2020.03 **School Representative**, 5G-based ICT Convergence Service Idea Contest
- 2020.03 **Excellent Scholarship**, Samsung Scholarship
- 2019.03 **Excellent Scholarship**, Samsung Scholarship
- 2019.03 **Academic Excellent Scholarship**, Kwangwoon University
- 2018.09 **Academic Excellent Scholarship**, Kwangwoon University
- 2018.03 **Academic Excellent Scholarship**, Kwangwoon University