Soohwan **Kim**

NLP RESEARCH ENGINEER · SPEECH RESEARCH ENGINEER

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"My dream is to make artificial intelligence like Jarvis in the movie Iron Man."

About Me

I would like to introduce myself as an AI research engineer rather than a research scientist. My dream is to make artificial intelligence like Jarvis in the movie Iron Man - so I am very interested in deep learning techniques such as speech recognition, speech synthesis, and open-domain dialogue. As for my ability, I can express what I thought neatly in code, and I have the ability to handle various open sources and learn quickly. If you want to check my capabilities, check my github page (https://github.com/sooftware).

Education

Kwangwoon University   *Seoul, South Korea*

BACHELOR OF ENGINEERING, MAJOR IN ELCOMM, MINOR IN DATA SCIENCE   *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, NLP 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, Gyunggi*

SPEECH 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, Gyunggi*

SPEECH 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 speecd 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**,	Samsong Scholarship
2019.03	**Excellent Scholarship**,	Samsong Scholarship
2019.03	**Academic Excellent Scholarship**,	Kwangwoon University
2018.09	**Academic Excellent Scholarship**,	Kwangwoon University
2018.03	**Academic Excellent Scholarship**,	Kwangwoon University