



# Soohwan Kim

AI RESEARCH ENGINEER · SOFTWARE DEVELOPER

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“Research engineer in NLP and Speech fields.”

## Professional Experience

### TUNiB

CO-FOUNDER, AI ENGINEER

Gangnam, Seoul

Mar. 2021 - Present

- The start-up that founded in March 2021 with my former Kakao Brain team members.
- Research and development the latest NLP & Speech technology.
  - ☑️ ☑️ Developing a pet chatbot.
  - ☑️ ☑️ Collect text data in terabytes units
  - ☑️ ☑️ TUNiB Electra
  - ☑️ ☑️ Conversation Sentiment Classification - 2021 AI Online Contest (1st Ranked)
  - ☑️ ☑️ Big Model Tuning Experiment (fine-tuning, p-tuning, prefix-tuning)
  - ☑️ ☑️ Development TUNiB TTS Model
- Homepage: [www.tunib.ai](http://www.tunib.ai)

### Kakao Brain

AI ENGINEER

Pangyo, Gyunggi

Nov. 2020 - Mar. 2021

- Speech and natural language processing team.
- Research and development the latest NLP & Speech technology.
  - ☑️ ☑️ PORORO: Platform Of neuRAl mOdelS for natuRAl language prOcessing
  - ☑️ ☑️ NLP paper reading
  - ☑️ ☑️ Retrieval base image captioning
  - ☑️ ☑️ Multilingual Text-To-Speech
  - ☑️ ☑️ Cross-lingual Text-To-Speech
  - ☑️ ☑️ Chinese Speech Recognition using Wav2vec 2.0
  - ☑️ ☑️ Korean Speech Recognition using Wav2vec 2.0
  - ☑️ ☑️ Experiment on English Speech Recognition
- Homepage: [www.kakaobrain.com](http://www.kakaobrain.com)

## Internships

### Kakao Brain

INTERNSHIP

Pangyo, Gyunggi

Aug. 2020 - Oct. 2020

- Speech and natural language processing team.
- Internship Project: development of English, Chinese, Korean speech recognizer

### Auditory Intelligence Lab

INTERNSHIP

Mapo, Seoul

Apr. 2020 - Aug. 2020

- Department of Computer Science & Engineering Sogang University
- Conduct KoSpeech projects with GPU support

## Education

### Kwangwoon University

BACHELOR OF ENGINEERING

Seoul, South Korea

Mar. 2014 - Feb. 2021

- **Major:** Electronics & Communication Engineering, **Minor:** Data Science
- **Major GPA :** 3.90 / 4.5, **Total GPA :** 3.67 / 4.5
- **Scholarship :**
  - ☑️ ☑️ Samsung Scholarship (2020, 2019)
  - ☑️ ☑️ Bima Scholarship - Academic Excellence Scholarship (2019-Spring, 2018-Fall, 2018-Spring)
- **Honors :**
  - ☑️ ☑️ President's Award - 1st place (Kwangwoon Engineering Festival)
  - ☑️ ☑️ People's Choice Award (Kwangwoon Engineering Festival)
  - ☑️ ☑️ Outstanding Award (Multi-Campus)
  - ☑️ ☑️ People's Choice Award (Startup Idea Contest)
  - ☑️ ☑️ School Representative (SKT 5G-based Convergence Idea Contest)

## Project Experience

### Chatbot

DEVELOPMENT

- GPT style chatbot
- Retrieval style chatbot
- TV character chatbot

TUNiB

Apr. 2021 - Present

### AI Grand Challenge

LEAD DEVELOPMENT

- Artificial intelligence competition organized by the IITP.
- Task1: the task to solve math problems in elementary school with Python code.
- Task2: the task of classifying situations from voice conversations.

TUNiB

Oct. 2021 - Nov. 2021

### AI Online Competition

LEAD DEVELOPMENT

- Artificial intelligence competition organized by the Ministry of Science and ICT (2021 AI Online Competition)
- 1st Ranked in Public / Private / Final leaderboard
- Task of classifying human emotions from human-AI conversation data.

TUNiB

Jun. 2021 - Jul. 2021

### TUNiB Electra

TEAM LEADER

- Released two version of ELECTRA models.
  - Korean-English bilingual Model (base/small)
  - Korean-only Model (base/small)
- GitHub Page: <https://github.com/tunib-ai/tunib-electra>

TUNiB

Aug. 2021 - Sep. 2021

### Openspeech

TEAM LEADER

- Framework that enables easy creation of speech recognition models of various models and various languages.
- Dozens of models including Transformers, ContextNets, Transformers, and Listen Attend Spell.
- Page: <https://github.com/sooftware/openspeech>

Personal

Mar. 2021 - Aug. 2021

### Pororo

TEAM MEMBER

- Library that can solve more than 30 natural language processing tasks in just 3-4 lines with pre-trained models.
- Automatic Speech Recognition
  - Wav2vec 2.0 Pre-training & fine-tuning.
  - Development of English, Korean, and Chinese speech recognizers.
- Speech Synthesis
  - Support 11 languages, cross-lingual voice style transfer, code-switching.
  - TTS Demo Page: <https://pororo-tts.github.io>
- GitHub Page: <https://github.com/kakaobrain/pororo>

Kakao Brain

Sep. 2020 - Feb. 2021

### KoSpeech

TEAM LEADER

- Framework for making speech recognizers specialized in Korean easily.
- GitHub Page: <https://github.com/sooftware/KoSpeech>

Kwangwoon Univ.

Jan. 2020 - Feb. 2021

### Naver AI Hackathon - Speech

TEAM LEADER

- Automatic speech recognition competition held by Naver.
- 12th out of 100 teams (When I was a junior in University)

Kwangwoon Univ.

Sep. 2019 - Oct. 2019

## Extracurricular Activity

### Technical Blog

WRITER

- Technical posting of deep learning, programming, signal processing, paper review etc. [link]

Blog

Aug. 2018 - Present

### Speech Paper Reading

GROUP MEMBER

- Weekly speech processing paper reading study [link]

Study

Dec. 2020 - Aug. 2021

### NLP Paper Reading

GROUP MEMBER

- Kakao Brain Natural Language Processing Team's weekly paper reading study [link]

Study

Aug. 2020 - Feb. 2021

## Awards & Honors

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### AWARDS

- 2021.08 **NIPA President's Award (1st Place)**, 2021 AI Online Competition
- 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 **Outstanding 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

## Presentation

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### The development process of the TUNiB Electra model

Seoul, S.Korea

2021 SSDC (SAMSUNG SOFTWARE DEVELOPMENT CONFERENCE)

Nov. 2021

- Presentation Session: [\[link\]](#)

### Korean Speech Recognition

Seoul, S.Korea

2021 LANGCON

Aug. 2021

- Presentation Video: [\[link\]](#)

### Know-how to win the 2021 AI online competition

Seoul, S.Korea

2021 AI ONLINE COMPETITION, PANGYO AI CAMP

Aug. 2021

- Presentation Video: [\[link\]](#)

## Teaching Experience

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### Samsung AI Expert Course - Speech Recognition

Spoken Language Lab

TEACHING ASSISTANT

Jul. 2020 - Aug. 2020

- Conducted Teaching Assistant role in the speech recognition session.

### Object-Oriented Programming Practice

Kwangwoon University

TEACHING ASSISTANT

Mar. 2020 - Jun. 2020

- Covered basic JAVA programming, ran laboratories and had office hours every week.

## Military Service

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### Republic of Korea Marine Corps

The 2nd Marine Division

SERGEANT

Sep. 2015 - Jun. 2017

- Served and discharged from Republic of Korea Marine Corps as Signaller.
- 2nd place in the 2016 Marine Corps 2nd Division Communication Competition.
- 1st place in the 2015 Marine Corps 2nd Division Communication Competition.

## Competitions

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- 2021 **1st Ranked**, AI Online Contest - Conversation Sentiment Classification Track
- 2019 **Finalist (12th Ranked)**, Naver AI Hackathon - Speech (Team Leader)

MSIT

Naver

## Publication

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- 2021 **Open-Source Toolkit for End-to-End Korean Speech Recognition**, ELSEVIER, SIMPAC, Volume 7, 100054
- 2020 **KoSpeech: Open-Source Toolkit for End-to-End Korean Speech Recognition**, arXiv, 2009.03092