



Soohwan Kim

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"Let's be better than yesterday"

Education

Kwangwoon University

SENIOR STUDENT IN ELECTRONIC AND COMMUNICATION ENGINEERING DEPT, MINOR IN DATA SCIENCE

- Major GPA of 3.90 / 4.5, Total GPA of 3.70 / 4.5

Seoul, South Korea

Mar. 2014 - Aug. 2021 (Expected)

Work Experience

Spoken Language Lab (of Sogang University)

UNDERGRADUATE RESEARCHER

- Open Source Project for Character-based Korean End-to-End Automatic Speech Recognition.
- Make Interactive User Interface Introductory Lecture Note
- DNN-based Acoustic Model Research
- Kaldi Open Source Speech Recognition Toolkit Research

Sogang University, Seoul

Apr. 2020 - Aug. 2020

Object-Oriented Programming Lecture

TEACHING ASSISTANT

- Object Oriented Programming in Department of Information Convergence.
- Answers questions in person and online, marks assignments, conduct a practical exercises

Kwangwoon University, Seoul

Mar. 2020 - Jun. 2020

Project Experience

Korean-English Speech Translation System

TEAM LEADER

- The goal is to establish a speech translation system combining speech recognition and machine translation technology.
- Implement Transformer model proposed in "Attention Is All You Need" [Related Link](#)

Jul. 2020 - Present

KoSpeech

TEAM LEADER

- Open Source Project for Character-based Korean End-to-End Automatic Speech Recognition
- Provide a learning environment through a variety of options
- Using a Korean Speech corpus opened in AI Hub.
- Recorded the performance of the model at **10.31** CER (Character Error Rate) with sampled test data.
- Preprocess of AI Hub corpus by method designed by self.
- Got more than **70 stars** on the GitHub site. [Related Link](#)

Jan. 2020 - Present

2019 Naver A.I Hackathon - Speech

TEAM LEADER

- **Ranked 12/100** in Korean speech recognition competition hosted by Naver. (2nd ranked in undergraduate)
- Using 100 hours of limited data provided by Naver
- Recorded the performance of the model at **24.67** CER (Character Error Rate).
- Improved the performance of the model through changing feature extraction, introduction of convolution layer to encoder. [Related Link](#)

Sep. 2019 - Oct. 2019

Side Projects

AUTHOR

- Smart Home IoT Platform - 2020 Spring. [Related Link](#)
- Sequence-to-Sequence Neural Machine Translation - 2019 Winter. [Related Link](#)
- Review based Wine Recommendation - 2019 Fall. [Related Link](#)
- Correlation Analysis Program between Naver, Daum, Google Search Ranking - 2019 Fall. [Related Link](#)
- Correlation Analysis Program between Melon Chart and SNS References - 2019 Fall. [Related Link](#)
- Cloud service - 2019 Summer. [Related Link](#)
- TCP Multi Chatting Program - 2019 Spring. [Related Link](#)
- Fastfood order program - 2018 Summer. [Related Link](#)
- Gallaga game - 2018 Spring. [Related Link](#)

Mar. 2018 - Present

Research Interests

Speech

SPEECH RECOGNITION, SPEECH SYNTHESIS, SIGNAL PROCESSING

- End-to-End Automatic speech recognition for various language
- Research on the output unit such as character, grapheme etc..
- Speed improvement of speech recognition
- Improved speech synthesis quality
- Feature extraction from speech

Natural Language Processing

NEURAL MACHINE TRANSLATION, LANGUAGE MODEL

- Machine translation from Korean to another language
- Language correction through language model
- Fusion of speech recognition and language models

Software Development

DEEP LEARNING, MACHINE LEARNING

- Design a simple, readable and extensible software
- Design a low time complexity
- Library development

Extracurricular Activity

Blog Posting

AUTHOR

Aug. 2018 - Present

- Blogging about what I've learned. (Deep Learning, Audio Signal Processing, Operating System, etc..) [Related Link](#)
- So far, More than 200 posts and an average of 100 people per day have visited.

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, read papers
- Study audio signal processing.

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

Software	VI Editor, Pycharm, Vscode, Visual Studio, Eclipse, Oracle, Mysql, Git, Audacity
Programming	Android, Arduino, C, C++, Java, Python, Shell, SQL
Deep Learning	Pytorch, Keras
Data Analysis	Numpy, Pandas, Matplotlib, Seaborn, Scikit-learn

Honors & Awards

AWARDS

- 2020 **School Representative**, 5G-based ICT Convergence Service Idea Contest
- 2019 **12 Ranked**, 2019 Naver A.I Hackathon - Speech
- 2019 **Finalist**, Idea Contest - Kwangwoon University software start-up idea contest - Fall
- 2019 **Popularity Award**, Kwangwoon University software start-up idea contest - Spring
- 2018 **Award for Best Practices**, Samsung Multi-Campus in Java-based Algorithm for SW Development Course

HONORS

- 2020 **Excellent Scholarship**, Samsung Scholarship
- 2019 **Academic Excellent Scholarship**, Kwangwoon University
- 2019 **Excellent Scholarship**, Samsung Scholarship
- 2018 **Academic Excellent Scholarship**, Kwangwoon University
- 2018 **Academic Excellent Scholarship**, Kwangwoon University