Kang-wook Kim

✉ full324@snu.ac.kr | 🏠 kwkim.me | ⌂ wookladin | 💼 Kang-wook Kim

SUMMARY

I am an undergraduate student majoring in ECE at Seoul National University. I am working as a research intern at Supertone Inc. Before that, I worked as Senior AI Scientist in MINDsLab. My research interest lies in speech synthesis and generative models.

My goal is to make user-friendly AI services or techniques which can benefit humans. I always focus on improving the usability of my AI model from the user's point of view, and I love these works.

EXPERIENCE

MINDsLab Inc.   Mar. 2020 – Mar. 2022
Senior AI Scientist   Pangyo, Kyeonggi

- Worked as the **leader of speech synthesis team**, making **Text-to-Speech (TTS) architectures and training recipes** that were widely used such as the donation system of Twitch, weather forecast, and AI Human.
- Developed robust autoregressive TTS system to generate **long sentences**, which can generate a **maximum of 10 minutes of speech**.
- Improved sound quality and inference speed of TTS system at once, raised **mean opinion score from 3.84 to 4.18**, which is comparable to **4.47 of ground-truth** value.
- Developed pronunciation evaluation engine for foreigners with the **small, unrefined dataset (4hrs, 12 speakers)**, which achieved **92% accuracy** for unseen speaker's dataset.
- Improved the sound quality of the voice conversion system, which achieved mean opinion scores in **naturality and speaker similarity** comparable to ground-truth.
- Worked as a substitute of mandatory military service, *2020.03 – 2022.02*

Supertone Inc.   Apr. 2022 – Now
Research Intern   Seoul

- Working as a research intern (part-time during the semester, full-time during vacation).
- Doing research to increase the phoneme classification accuracy of singing voices.

EDUCATION

Seoul National University   Mar. 2018 – Now
B.S. in Electronical and Computer Engineering (Overall GPA: 3.99/4.30) (Major: 4.07/4.30)   Seoul, Korea

Gyeonggi Science High School for the gifted   Mar. 2015 – Feb. 2018
High school for gifted students in mathematics, science, and informatics   Gyeonggi, Korea

PUBLICATION

Conference

- **Kang-wook Kim**, Seung-won Park, Junhyeok Lee, and Myun-chul Joe, "Assem-VC: Realistic Voice Conversion by Assembling Modern Speech Synthesis Techniques," ***Proceedings of IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP), 2022***

Workshop

- **Kang-wook Kim** and Junhyeok Lee, "Controllable and Interpretable Singing Voice Decomposition via Assem-VC," ***NeurIPS Workshop on ML for Creativity and Design 2021*** (Oral)
- Ki-Ung Song*, Dongseok Shim*, **Kang-wook Kim***, Jae-young Lee, Younggeun Kim, "FS-NCSR: Increasing Diversity of the Super-Resolution Space via Frequency Separation and Noise-Conditioned Normalizing Flow," ***CVPR NTIRE Workshop 2022***

Demo Track

- Hyoung-Kyu Song, Sang Hoon Woo, Junhyeok Lee, Seungmin Yang, Hyunjae Cho, Dongho Choi, **Kang-wook Kim**, Youseong Lee, "Talking Face Generation with Multilingual TTS," ***CVPR Demo Track 2022***

OPEN SOURCE CONTRIBUTION

Assem-VC - voice conversion system (Stars: 203) : Official repository of our paper.
UnivNet - vocoder (Stars: 135) : I reproduced the results in the paper while official implementation is unavailable.

HONORS and AWARDS

- Presidential scholarship on informatics 2018 - 2023, fully funded scholarschip for undergrad course

- Hanseong Sonjaehan Scholarship 2016 - 2017, 5M KRW per year

- Exemplary Youth Awards in Gyeonggi-do 2016, Science and Technology sector

- *Korea Olympiad in Informatics (KOI)* **Gold (4th place) at 2015**; Silver, Bronze at 2014, 2011.

- Completion of winter school for International Physics Olympiad (IPhO) candidates – 2015, 2016