

Huu Kim Nguyen

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INTERESTS

Speech Signal Processing, Deep Learning

Speech synthesis, voice conversion, generative adversarial networks

EDUCATION

Yonsei University

Seoul, Korea

M.S. in Electrical and Electronic Engineering

Sep. 2019 – Present

- Digital Signal Processing & Artificial Intelligence (DSP&AI) Lab. (Prof. Hong-Goo Kang)
- Major: Speech signal processing, Deep learning

Hanoi University of Science and Technology

Hanoi, Vietnam

B.S. in Electronic and Telecommunication Engineering

Sep. 2013 – Aug. 2018

- Signal Processing and Radio Communication (SPARC) Lab. (Prof. Huy-Dzung Han)
- Major: Hardware design, FPGA design, Internet of Things, Machine learning

EXPERIENCE

Graduate Researcher

Sept. 2019 – Present

DSP&AI lab - Yonsei University

Seoul, Korea

- Research speech-related topics e.g. speech synthesis, voice conversion
- Research solutions for speech synthesis on-device applications

AI Engineer

Mar. 2019 – Aug. 2019

NTQ Solution JSC.

Hanoi, Vietnam

- Study solutions for various practical problems e.g. face, license plate recognition, gesture estimation
- Participate in a development project of beauty face application

Undergraduate Research Assistant

Jan 2017 – Feb. 2019

SPARC lab - Hanoi University of Science and Technology

Hanoi, Vietnam

- Build a smart algae cultivation system based on IoT platform
- Develop a secure remote FPGA reconfiguration method even while the device is in operation

PUBLICATIONS

- [1] Thi-Thai Yen Doan, Minh-Tri Ho, **Huu-Kim Nguyen**, and Huy-Dung Han. "Optimization of Spirulina sp. Cultivation using Reinforcement Learning with State Prediction based on LSTM Neural Network". In: *Journal of Applied Phycology* (2021).
- [2] Kihyuk Jeong, **Huu-Kim Nguyen**, and Hong-Goo Kang. "A Light and Fast Text-To-Speech Model with Spectrum and Waveform Alignment Algorithms". In: *Proc. EUSIPCO*. 2021.
- [3] **Huu-Kim Nguyen**, Kihyuk Jeong, and Hong-Goo Kang. "A Fast and Lightweight Speech Synthesis Model based on FastSpeech2". In: *Proc. ITC-CSCC*. 2021.
- [4] **Huu-Kim Nguyen**, Kihyuk Jeong, Seyun Um, Min-Jae Hwang, Eunwoo Song, and Hong-Goo Kang. "LiteTTS: A Decoder-free Lightweight Text-to-wave Synthesis Model Based on Generative Adversarial Networks". In: *Proc. INTERSPEECH (submitted)*. 2021.

PROJECTS

Development of Attribute Controllable Natural Keyword Speech Generation Method

Qualcomm Korea

Speech augmentation in preparation for automatic speech recognition

Nov. 2019 – Jun. 2020

- Research multi-speaker text-to-speech for speech data augmentation
- Research non-parallel voice conversion to synthesize speech utterances

Real-time Neural Text-to-speech on CPU Device

Naver Corp.

Effective text-to-speech model for on-device applications

Oct. 2020 – Present

- Design a small-sized, fast-synthesizing text-to-speech model for portable devices
- Research non-autoregressive Transformer-based speech synthesis

SKILLS

Programming Languages: Python, Latex, Java, C/C++
Frameworks: Pytorch, Tensorflow, Flask
Developer Tools: Git, Docker, Vim, PyCharm
Libraries: NumPy, pandas, Matplotlib, librosa
Languages: Vietnamese (native), English (advanced), Korean (beginner)

MISCELLANEOUS

Awards and Achievements	
<i>Top 5 in IoT startup competition 2017</i>	<i>Hanoi, Vietnam</i>
<i>Poster at Conference – Vietnam International Water Week – VACI 2018</i>	<i>Hanoi, Vietnam</i>
<i>Award for Excellent Student of School of Electronics and Telecommunication (semester 20161)</i>	<i>Hanoi, Vietnam</i>