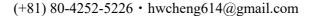
Haowei Cheng





Education

B.Eng. Lanzhou Institute of Technology (LZIT), China Sept. 2017 - Jun. 2021 O School of Computer Science & Artificial Intelligence O Major: Software Engineering O Average Score: 81.07/100 Ranking: Top 5% M.S. Japan Advanced Institute of Science and Technology (JAIST) Oct. 2021 – Sept. 2023 School of Information Science Advisor: Prof. Masashi Unoki (Unoki Laboratory) 0 Research Interests: Speech Signal Processing, Machine Learning Average Score: 84.16/100 \circ Ph.D. Waseda University Apr. 2024 – Mar. 2027 Graduate School of Fundamental Science and Engineering Department of Computer Science and Communications Engineering Advisor: Prof. Hironori Washizaki (Washizaki Laboratory) Research Interests: Reliable Software Engineering, Requirement Engineering, Machine learning, Generative AI Research Topic: Enhancing Reliability in Requirements Engineering of Software Systems through ML/Generative AI technologies (ML/GenAI for RE) **Professional Experience Design of COVID-19 Visualization Platform in China** Feb. - Jun. 2021 Analyzed the National Health Commission and Baidu Inc's COVID-19 data 0 Utilized Web Crawler to collected, cleaned, and adjusted the raw data (Python Scrapy) 0 Design a reasonable database (MySQL) and visualize the data (Flask, Echarts) Class Assistant Sign-in Management Project Aug. – Dec. 2020 Analyzed the current situation of "Digital Classroom" for students at home and abroad Applied the theory of session to the management of user log-in and authorities 0 Applied major technologies (Spring Boot, Bootstrap) to realize system function 0 Tested and optimized the project Nov. - Dec. 2021 **Operating Systems - File System Implementation** Simulates a simple file system using bitmaps and other methods to allocate space appropriately 0 0 HCnet-614/Operating-System-Assignment: JAIST-I233 (github.com) **Speech Recognition-Speaker Recognition** Jan. - Feb. 2022 Speech signal processing: add white noise (MFCC), design filters (IRR, FIR) 0 Speaker recognition: training model (GMM), calculating match scores 0 Accuracy rate: 96.21% Jan. - Feb. 2022 **Machine Learning - Text Classification** 0 Converting text to vectors (Tfidf, word2vec) 0 Using multilayer perceptron (MLP) training, the accuracy reaches 0.98 (200 iterations) 0 Machine-Learning-Assignment/Coding Project at main · HCnet-614/Machine-Learning-Assignment (github.com) **Deep-fake Speech Detection** Sept. 2022 – Aug. 2023 Analyzed the concept of Spectro-temporal Modulation (STM) representation in human auditory mechanism 0 Applied the light convolutional neural network bidirectional long short-term memory (LCNN-BiLSTM) 0

Work Experience

0

O Software Engineer Inter
Company name: Xi'an Yunchuang Power Information Technology Co., Ltd

model that utilizes STM representations for efficient deep-fake speech detection.

This work offers theoretical support for a fake speech detection system (EER of 42.10%)

O English Teaching Assistant Sept.2022 – Jun 2023

O Co-Chair Apr. 2024 – Present

Waseda University, Mu Tau - IEEE Eta Kappa Nu (IEEE-HKN)

Description: Waseda University Mu Tau chapter is the first IEEE Eta Kappa Nu chapter in Japan. The chapter was founded on July 22, 2018 during the IEEE COMPSAC 2018 in Tokyo. Our mission is to promote excellence in research and to serve the students of the Electrical Engineering community at Waseda with academic support and services.

Honors & Awards

O Pioneering Research Program for a Waseda Open Innovation Ecosystem (*W-SPRING*) Mar. 2024

Issued by *Japan Science and Technology Agency (JST)*

This program aims to lead the future of science, technology and innovation, and to promote the development of diverse career paths for widespread success of doctoral human resources.

	of diverse career paths for widespread success of doctoral human resources.	
0	First Prize, China's National Undergraduate Mathematical Contest in Modeling	Nov. 2020
0	First Prize, "Software Engineering Cup" Programming Competition	Nov. 2018, Nov. 2020
0	Title of Excellent Software Engineer Intern	Aug. 2020
	Xi'an Sentu Science and Technology Co., Ltd., Xi'an, China	
0	National Encouragement Scholarship of China	2018-2020
0	The First Prize Scholarship of LZIT	2018-2020
0	Title of Outstanding Graduate	Nov. 2019
0	Title of Merit Student	Nov.2018, Nov. 2020
0	Title of Excellent Student Leader	Nov.2019, Nov. 2020

Publications

- O <u>Haowei Cheng</u>, Candy Olivia Mawalim, Kai Li, Lijun Wang, Masashi Unoki, Analysis of Spectro-Temporal Modulation Representation for Deep-Fake Speech Detection, *in Proc. Asia-Pacific Signal and Information Processing Association Annual Summit and Conference (APSIPA ASC 2023).*
- O <u>Haowei Cheng</u>, Candy Olivia Mawalim, Kai Li, Masashi Unoki, Study on Deep-Fake Speech Detection Based on Spectro-Temporal Modulation Representation, *in Proc. Joint conference of Hokuriku chapters of Electrical and information Societies (JHES 2023)*.

Others

- O Languages: Chinese (Native), English (Fluent): CET-6, TOEIC-820, Japanese (Fluent): JLPT-N2
- O Technical field: C, Java, JavaScript, Python, MySQL, MATLAB, Pytorch, Transformer, Linux, Git
- O Interests: Piano, Diving, Table Tennis, Skiing