Rui-Chen Zheng | 郑瑞晨

Phone: (+86)181-8926-6050 | **Email:** zhengruichen@mail.ustc.edu.cn
Homepage: https://zhengrachel.github.io/

Education

PhD Student in Information and Communication Engineering	*2021.09 - Now*
University of Science and Technology of China	*Hefei, Anhui, China*

➢ Supervised by Prof. Zhen-Hua Ling
➢ GPA: 3.9/4.3

Bachelor of Electronic Information Engineering	*2017.09 – 2021.06*
University of Science and Technology of China	*Hefei, Anhui, China*

➢ Thesis: Method and Practice on Text-to-Speech Without Text
➢ GPA: 3.89/4.3
➢ Minor in Business Administration

Research Interest & Publications

➢ **Articulation-to-Speech Synthesis, Articulation-Acoustic Relationship**

[1]. **Rui-Chen Zheng**, Yang Ai, Zhen-Hua Ling, "Speech Reconstruction from Silent Lip and Tongue Articulation by Diffusion Models and Text-Guided Pseudo Target Generation", accepted by *ACM Multimedia 2024*.

[2]. **Rui-Chen Zheng**, Yang Ai, Zhen-Hua Ling, "Incorporating Ultrasound Tongue Images for Audio-Visual Speech Enhancement", *IEEE/ACM Transactions on Audio, Speech, and Language Processing* (Volume: 32), pages 1430-1444.

[3]. **Rui-Chen Zheng**, Yang Ai, Zhen-Hua Ling, "Incorporating Ultrasound Tongue Images for Audio-Visual Speech Enhancement Through Knowledge Distillation", in *Proc. INTERSPEECH 2023*, pages 844-848.

[4]. **Rui-Chen Zheng**, Yang Ai, Zhen-Hua Ling, "Speech Reconstruction from Silent Lip and Tongue Articulation by Pseudo Target Generation and Domain Adversarial Training", in *Proc. ICASSP 2023*, pages 1-5.

➢ **Speech Coding, Speech Synthesis**

[1]. **Rui-Chen Zheng**, Hui-Peng Du, Xiao-Hang Jiang, Yang Ai, Zhen-Hua Ling, "ERVQ: Enhanced Residual Vector Quantization with Intra-and-Inter-Codebook Optimization for Neural Audio Codecs", *under review*.

[2]. Hui-Peng Du, Yang Ai, **Rui-Chen Zheng**, Zhen-Hua Ling, "APCodec+: A Spectrum-Coding-Based High-Fidelity and High-Compression-Rate Neural Audio Codec with Staged Training Paradigm", accepted by *ISCSLP 2024*.

[3].Xiao-Hang Jiang, Yang Ai, **Rui-Chen Zheng**, Hui-Peng Du, Zhen-Hua Ling, "MDCTCodec: A Lightweight MDCT-based Neural Audio Codec towards High Sampling Rate and Low Bitrate Scenarios", accepted by *SLT 2024*.

[4].Fei-Liu, Yang Ai, Hui-Peng Du, Ye-Xin Lu, **Rui-Chen Zheng**, Zhen-Hua Ling, "Stage-Wise and Prior-Aware Neural Speech Phase Prediction", accepted by *SLT 2024*.

[5].Yang Ai, Ye-Xin Lu, Xiao-Hang Jiang, Zheng-Yan Sheng, **Rui-Chen Zheng**, Zhen-Hua Ling, "A Low-Bitrate Neural Audio Codec Framework with Bandwidth Reduction and Recovery for High-Sampling-Rate Waveforms", in *Proc. Interspeech 2024*, pages 1765-1769.

Selected Honors

➢ Honor Rank for Top 5% Graduates of USTC.	*2021.06*
➢ Huawei Scholarship	*2020.12*
➢ USTC Outstanding Student Scholarship, Gold Award	*2019.12 & 2018.12*
➢ Top-Notch Program Funding	*2019.12 & 2018.12*

Skills

Language – Chinese/English

➢ TOEFL iBT: 106 (Reading: 28, Listening: 29, Speaking: 26, Writing: 23)	*2023.11*

Teaching Assistant Experience

➢ Fundamentals of Speech Signal Processing by Prof. Zhen-Hua Ling, USTC	*2022 Fall*
➢ Fundamentals of Speech Signal Processing by Prof. Zhen-Hua Ling, USTC	*2021 Fall*
➢ Computer Programing Design A by Lecturer. Hu Si, USTC	*2020 Fall*

Other Experience

Admitted to UCLA CSST Summer Internship Program	*2020.07*