

# Tinglong Zhu

Phone: (412)-713-8565 Email: [tinglonz@alumni.cmu.edu](mailto:tinglonz@alumni.cmu.edu)  
LinkedIn: [linkedin.com/in/tinglonz](https://www.linkedin.com/in/tinglonz) Personal Page: <https://kurisujhin.github.io>

## EDUCATION

### Carnegie Mellon University

Pittsburgh, PA

- Master of Science in Intelligent Information Systems (MIIS-21); GPA: 3.93/4.0

Aug 2022- May 2024

### Duke Kunshan University / Duke University (Dual degree)

Kunshan, China

- Bachelor of Science; Major: Data Science GPA: 3.89/4.0

Aug 2018- May 2022

## PUBLICATIONS

[1] **Tinglong Zhu**, Xingming Wang, Xiaoyi Qin, Ming Li (2022) Source Tracing: Detecting Voice Spoofing. *Asia-Pacific Signal and Information Processing Association (APSIPA) SS03: Security Techniques of Speaker Recognition 2022*

[2] **Tinglong Zhu**, Xiaoyi Qin, Ming Li (2021) Binary Neural Network for Speaker Verification. *Conference of the International Speech Communication (Interspeech) 2021*

[3] Xingming Wang, Xiaoyi Qin, Ming Li, **Tinglong Zhu**, Chao Wang, Shilei Zhang (2021) The DKU-CMRI System for the ASVspoof 2021 Challenge: Vocoder Based Replay Channel Response Estimation. *ASVspoof 2021 Workshop*

## INDUSTRY EXPERIENCE

### TikTok

Seattle, WA

*Machine Learning Engineer, Global-E-Commerce Search Team*

Jun 2024 – Present

- Achieve 1.5% GPMs gain through adding a generalized retrieval
- Improve fine rank CTCVR model's AUC by 0.5% via upgrading model structure and adding new features
- Develop business strategies, resulting in approximately 5% improvement on OPMs
- Design, train and deploy fine rank repurchase model to promote repurchase rate
- Build training and online serving data pipeline for newly added features

### Alibaba

Hangzhou, China

*Research Intern, DAMO Academy Speech Team*

May 2023 – Aug 2023

- Took advantage of Residual Vector Quantization (RVQ), Neural Codec and LLM techniques to design and implement a new lightweight (for lower inference cost), and multi-task Text-to-Speech (TTS) system
- Reimplemented SoundStream codec (based on EnCodec) and SoundStorm model (350M Conformer)
- Wrote codebase (from scratch) for training/evaluating TTS systems (with cluster-compatible I/O)

### Microsoft

Beijing, China

*Research Intern, Cloud + AI Speech Team*

May 2021 – Aug 2021

- Conducted joint training of ASR TTS ASV models to enlarge data sources of small languages, and enhanced human-computer interaction for more languages and dialects worldwide
- Built pipeline (Listen, Attend and Spell) for Automatic Speech Recognition based on ESPnet, pipeline for Automatic Speaker Verification (ASV) based on SEResNet34 and pipeline for Text-to-Speech (Tacotron2)
- Trained models on Azure clusters (multi-nodes training)
- Achieved following performance improvement: TTS system: Word Error Rate (WER): Reduced from 16.5% to 15.5%. Mean Cosine Similarity: Improves from 0.55 to 0.73

## RESEARCH EXPERIENCE

**Project: Source Tracing: Detecting Voice Spoofing**, Duke Kunshan University

Feb 2022 – Aug 2022

Proposed a Training Strategy for Classifying Attributes of Spoof Systems (RawNet2, ResNet34 based systems)

- Achieved 88.41%, 77.54%, 51.46% accuracy for Conversion, Waveform Generator, and Speaker Representation attributes, respectively on RawNet2 based system
- Accepted by *APSIPA ASC 2022 Special Session 03* [1]

## SKILLS

**Programming Languages:** C/C++, Python, Java, BASH, MATLAB, R

**Software & Open-Source Toolkits:** PyTorch, ESPnet, Hive, SQL, Linux, TensorFlow, Azure, AWS, SciPy, Matplotlib