Mingrui **Yuan**

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Research Interests

Speech Processing, Speaker Verification, Audio Signal Processing, Adversarial Machine Learning

Education

Tsinghua University

Haidian District, Beijing, 100084

B.S. in Dept. of Electronic Engineering

Aug 2016 - Present

- **GPA 3.77/4.0**

Research Experiences

University of Rochester, Audio Information Research (AIR) Lab

Rochester, NY 14642

Visiting Student Researcher, Supervisor: Prof. Zhiyao Duan

Jun 2019 - Sep 2019

- Proposed simple and effective multi-speaker representation in deep learning TTS model.
- Verified significant spoofing effects of deep learning TTS on speaker verification systems in black-box condition.
- Uncovered threat of TTS on anti-spoofing systems when model structures are not kept confidential.
- `[Code]` `[Report]`

Tsinghua University, Speech and Audio Technology Lab (SATLAB)

Haidian District, Beijing

Student Researcher, Supervisor: Prof. Weiqiang Zhang

May 2018 - Present

- Investigated functions of different features in replay attack detection. `[Report]`
- Investigated real-time speech enhancement based on recurrent neural networks.

Tsinghua University

Haidian District, Beijing, 100084

Course Project

Jan 2019 - Feb 2019

- Course project of *Stochastic Processes*.
- Investigated algorithms for level set estimation.
- `[Report]`

Tsinghua University

Haidian District, Beijing, 100084

Course Project

Oct 2018 - Dec 2018

- Course project of *Introduction to Auditory-visual Information System*.
- Source separation and localization based on auditory and visual information.

Background and Skills

Mathematics

Calculus, Linear algebra, Functions of complex variables, Probability, Stochastic processes

Professional Courses

Signals and systems, Digital signal processing, Speech processing, Statistical signal processing, Machine learning, Deep learning, Introduction to auditory-visual information system

Programming

C Python Matlab Programming, Data structures and algorithms

English Proficiency

TOEFL 106, **GRE** V166 + Q170 + AW4.0

Honors and Awards

Academic Excellence Award

Awarded by Dept. of Electronic Engineering

2017,2018