

# Mingrui Yuan

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[\[Github\]](#)

[\[Homepage\]](#)

## Education

**Tsinghua University**

*Bachelor of Engineering,*

*Dept. of Electronic Engineering*

GPA: 3.77/4.0

*Beijing*

*Aug 2016-Present*

## Research Interests

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

## Research Experiences

**University of Rochester**

*Visiting Student Researcher,*

*Supervisor: Prof. Zhiyao Duan*

*Rochester, NY*

*Jun 2019-Sep 2019*

- ♦ Proposed simple and effective multi-speaker representation in deep learning Text-to-speech (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.

**Tsinghua University**

*Student Researcher*

*Supervisor: Prof. Weiqiang Zhang*

*Beijing*

*May 2018-Present*

- ♦ Worked on replay speech detection. [\[Report\]](#)
- ♦ Investigated real-time speech enhancement based on hybrid digital signal processing/deep learning method.
- ♦ Spoofing and anti-spoofing on speaker verification based on reinforcement learning. (In progress)

## Publication

**Mingrui Yuan**, Zhiyao Duan. "Spoofing Speaker Verification Systems with Deep Multi-speaker Text-to-speech Synthesis," *arXiv preprint*, 2019. (Submitted to ICASSP 2020) [\[pdf\]](#) [\[code\]](#)

## Background and Skills

**Mathematics** Calculus I [4.0/4.0], II [4.0/4.0]; Linear Algebra I [4.0/4.0], II [3.6/4.0]; Probability and Stochastic Processes I [4.0/4.0], II [4.0/4.0] [[Course Project Report](#)].

**Professional Courses** Signals and Systems [3.6/4.0], Digital Signal Processing [4.0/4.0], Media and Cognition (*Contents: machine learning*) [4.0/4.0], Introduction to Auditory-visual Information System [4.0/4.0].

**Programming** C, Python, Matlab, Shell. Data Structures and Algorithms[4.0/4.0].

**English Proficiency** TOEFL[106]. GRE—V[166]+Q[170]+AW[4.0]

## Honors and Awards

**Tang yanying Scholarship** 2017

*Tsinghua University*

- ♦ Awarded to students with good grades

**Undergraduate Scholarship** 2019

*Tsinghua University*

- ♦ Awarded to students with outstanding social work

## Extracurricular Activities

**Sports** Football, badminton, table tennis, tennis

**Reading & Writing** Chinese traditional poems

**Student Association** Feb 2018-Present

*Associate Chairman, Boarder Caring Association*

- ♦ Focus on living condition of boarders in underdeveloped areas of China.