

# 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--V166+Q170+AW4.0

## Honors and Awards

**Academic Excellence Award** 2017, 2018  
*Awarded by Dept. of Electronic Engineering*  
**Social Duties Excellence Award** 2019  
*Awarded by Dept. of Electronic Engineering*

## 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 remote areas of China.