Zhanghao **Wu**

UNDERGRADUATE IN COMPUTER SCIENCE

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Education

Shanghai Jiao Tong University(SJTU) *Shanghai, China*
B.S. IN COMPUTER SCIENCE *Sep. 2016 - Jun. 2020 (expected)*
- A student of ACM Class, an elite CS program for top 5% talented students. (GPA: 92.07 / 100, **Rank: 2**)
- Interested in machine learning, including natural language processing, speech and efficient AI.

Research Experience

HanLab *Massachusetts Institute of Technology, USA*
RESEARCH ASSISTANT, SUPERVISED BY PROF. SONG HAN *Jul. 2019 - Jan. 2020 (expected)*
- Focusing on privacy preserving and efficient machine learning.
- Won first place in the CVPR'19 Visual Wake Words challenge and third place (first place of all academic groups) in CVPR'19 Low Power Image Recognition Competition.
- Currently working on efficient natural language processing, especially for language model.

SpeechLab *Shanghai Jiao Tong University, China*
UNDERGRADUATE RESEARCHER, ADVISED BY PROF. KAI YU *Jul. 2018 - PRESENT*
- Focused on Rich Audio Analysis (RAA), analysis and classification of non-text information within human speech.
- Designed a VAE data augmentation to improve the robustness of speaker verification. **(Oral paper, Interspeech 2019)**
- Implemented a Deep Canonical Correlation Analysis (DCCA) to combine i-vector and x-vector, which are two kinds of highly complementary embedding of speaker.

Publications

Data Augmentation using Variational Autoencoder for Embedding based Speaker Verification
ZHANGHAO WU, SHUAI WANG, YANMIN QIAN, KAI YU *Sep. 2019*
Interspeech 2019 (oral presentation)

Teaching Experience

Compiler (MS208), Teaching Assistant *Shanghai Jiao Tong University*, **Spring 2019**
C++ Programming (CS152), Teaching Assistant *Shanghai Jiao Tong University*, **Spring 2018**

Honors & Awards

First place, CVPR'19 Visual Wake Words challenge *CVPR'19*, 2019
Third place, CVPR'19 Low Power Image Recognition Competition *CVPR'19*, 2019
Outstanding Winner, Mathematical Contest in Modeling (Top 0.5%, international) *COMAP*, 2017
National Scholarship, (Top 1%) *Ministry of Education of P.R. China*, 2018
Fan Hsu-Chi Chancellor's Scholarship, (Top 0.1%) *Shanghai Jiao Tong University*, 2017
Merit Student *Shanghai Jiao Tong University*, 2017
Zhiyuan Honorary Scholarship *Shanghai Jiao Tong University*, 2016 - 2018

Selected Projects

VWW 🐙 mit-han-lab/VWW *May. 2019*
Won first place in the CVPR'19 Visual Wake Words challenge.

DeepCCA 🐙 Michaelvll/DeepCCA *Dec. 2018*
An implementation of Deep Canonical Correlation Analysis in pytorch

MW Compiler 🐙 Michaelvll/MWCompiler *Jun. 2018*
- Designed a compiler implemented in Java from scratch, translating Mx*, a Java-and-C-like language, program into x64-nasm code.
- Implemented optimizations for the compiler, faster than gcc O1 on test set, **98/100**.

RISCV CPU 🐙 Michaelvll/RISCV_CPU *Jan. 2018*
- Designed and implemented a FPGA-supported RISC-V CPU with 5-stage pipeline implemented in Verilog HDL. And becomes the only two implementation that support FPGA in class, **100/100**.

Chinese Land Battle Chess AI 🐙 Michaelvll/Chinese-Land-Battle-Chess-AI *Nov. 2016*
- Designed and Implemented a rule-based AI for Chinese Land Battle Chess, a course project for C++ Programming 2016(CS152), SJTU.