

Weicheng Cai

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EDUCATION BACKGROUND

2016- Present Sun Yat-Sen University (SYSU), Guangzhou, China

Ph.D. Student, Major in Computer Science

GPA: **91.4/100**

2014- 2016 Sun Yat-Sen University (SYSU), Guangzhou, China

Master of Engineering, Major in Electronic and Communication Engineering

GPA: **85.6/100** **First class Merit Scholarship**

2010- 2014 Shenzhen University (SZU), Shenzhen, China

Bachelor of Engineering, Major in Electronic Science and Technology

GPA: **3.50/4.00** **Three years Merit Scholarship**

RESEARCH INTERESTS

- **Speaker Recognition (Text-independent/Text-dependent, Verification/Identification)**
- **Language/Dialect Identification**
- **ASVSpooF Countermeasure**
- **Speaker Diarization**
- **Voice Conversion**

RESEARCH AND PROFESSIONAL EXPERIENCE

Sept. 2014 - Now

Supervisor: Prof. Ming Li, Duke Kunshan University

Speech and Multimodal Intelligent Information Processing Lab

- Research on the utterance-level speaker and language recognition based on deep neural network.
- Participant in developing the DKU system for Interspeech 2019 VOiCES Challenge, achieved 3rd place in the world.
- Developing the DKU system for Automatic Speaker Verification Spoofing and Countermeasure (ASVSpooF) 2019 Challenge and achieved the 4th place in the world for physical access task.
- Developing the DKU-Tencent system for Oriental Language Recognition (OLR) 2018 Challenge, achieved the 2nd place in the world for short duration task.
- Participant in developing the DKU-SMIIP system for NIST 2018 Speaker Recognition Evaluation (SRE), our single-team system achieved the 4th place in the world.

June 2017 - Nov. 2017

Tencent Inc., Beijing (Intern)

Wechat AI Group

Mentor: Dr. Xiang Zhang and Dr. Li Lu

- Participant in developing the online Voiceprint system in Wechat mobile application
- Developing the online speaker diarization system applied in Tencent Cloud

July 2016 - Sept. 2016

IBM Research China (Intern)

Speech Group

Mentor: Dr. Shilei Zhang

- Developing the speaker diarization system for autism children's real-life speech data

July 2015 - Sept. 2015

Baidu Inc., Beijing (Intern)

Cloud Device Group

Mentor: Dr. Can Ye

- Developing the text-dependent speaker verification library for the mobile device

AWARDS AND HONORS

- 2016 Best Graduation Thesis Defense Scholarship in College
- 2016 Shunde Scholarship (Top 10% in College)
- 2015 National Scholarship (Top 1% in Univ.)
- 2015 Shunde Scholarship (Top 10% in College)
- 2014 International Speech Communication Association (ISCA) Student Grant
- 2013 Mintong Scholarship (Top 5% in College)
- 2012 1st Award in Guangdong Province of the China Undergraduate Mathematical Contest in Modeling
- 2012 1st Award Top Students of Academic Innovation in Shenzhen University

PROGRAMMING LANGUAGE AND TOOLS

- Python Shell MATLAB C++
- Kaldi PyTorch Tensorflow Keras

PUBLICATIONS

- [14] **Weicheng Cai**, Danwei Cai, Shen Huang, Ming Li, “Utterance-level End-to-End Language Identification Using Attention-based CNN-BLSTM”, ICASSP 2019.
- [13] Jinkun Chen, **Weicheng Cai**, Danwei Cai, Zexin Cai, Haibin Zhong and Ming Li, “End-to-end Language Identification using NetFV and NetVLAD”, ISCSLP 2018.
- [12] **Weicheng Cai**, Jinkun Chen, Ming Li, “Analysis of Length Normalization in End-to-End Speaker Verification System”, Interspeech 2018.
- [11] **Weicheng Cai**, Jinkun Chen, Ming Li, “Exploring the Encoding Layer and Loss Function in End-to-End Speaker and Language Recognition System”, Speaker Odyssey 2018.
- [10] **Weicheng Cai**, Zexin Cai, Xiang Zhang, Ming Li, “A Novel Learnable Dictionary Encoding Layer for End-to-End Language Identification”, ICASSP 2018.
- [09] **Weicheng Cai**, Danwei Cai, Wenbo Liu, Ming Li, “Insights into End-to-End Learning Scheme for Language Identification”, ICASSP 2018.
- [08] **Weicheng Cai**, Danwei Cai, Wenbo Liu, Gang Li and Ming Li, “Countermeasures for Automatic Speaker Verification Replay Spoofing Attack: On Data Augmentation, Feature Representation, Classification and Fusion”, Interspeech 2017.
- [07] Danwei Cai, Zhidong Ni, Wenbo Liu, **Weicheng Cai**, Gang Li and Ming Li, “End-to-End Deep Learning Framework for Speech Paralinguistics Detection Based on Perception Aware Spectrum”, Interspeech 2017.
- [06] Tianyan Zhou, **Weicheng Cai**, Xiaoyan Chen, Xiaobing Zou, Shilei Zhang, Ming Li, “Speaker Diarization System for Autism Children’s Real-Life Audio Data”, ISCSLP 2016.
- [05] Danwei Cai, **Weicheng Cai**, Ming Li, “Locality Sensitive Discriminant Analysis for Speaker Recognition”, APSIPA ASC 2016.
- [04] Huadi Zheng, **Weicheng Cai**, Tianyan Zhou, Shilei Zhang, Ming Li, “Text-Independent Voice Conversion Using Deep Neural Network Based Phonetic Level Features”, ICPR 2016.
- [03] Ming Li, Lun Liu, **Weicheng Cai** and Wenbo Liu, “Generalized I-vector Representation with Phonetic Tokenizations and Tandem Features for both Text Independent and Text Dependent Speaker Verification”, Journal of Signal Processing Systems, 2016.
- [02] Shitao Weng, Shushan Chen, Lei Yu, Xuewei Wu, **Weicheng Cai**, Zhi Liu and Ming Li, “The SYSU System for the ASVspoof 2015”, APSIPA ASC 2015.
- [01] **Weicheng Cai**, Ming Li, Lin Li and Qingyang Hong, “Duration Dependent Covariance Regularization in PLDA Modeling for Speaker Verification”, Interspeech 2015.