Jiyang Tang

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EDUCATION

Duke Kunshan University/Duke University May 2022
Bachelor of Science in Data Science (by Duke Kunshan)
Bachelor of Science in Interdisciplinary Studies (Data Science, by Duke)
- Cumulative GPA: 3.61/4.0; Major GPA: 3.70/4.0
- Research Assistant at DKU Speech and Multimodal Intelligent Information Processing (SMIIP) Lab, supervised by Professor Ming Li
- Honors and Awards:
  - Dii (DKU iNNOVATION iNCUBATOR) 2020 Batch Funding
  - Summer Research Program Funding
  - Undergraduate Entrance Scholarship (merit-based)

PUBLICATION

End-to-End Mandarin Tone Classification with Short Term Context Information, accepted by APSIPA ASC 2021, primary author

RESEARCH

Computer-Aided Pronunciation Training (CAPT) as my focus
A CAPT system uses deep learning to detect a user's mispronunciation and automatically gives feedback.
- Constructed a CAPT system consisting of a server backend and a mobile app to help international students at DKU learn Mandarin
- Implemented Mandarin pronunciation evaluation algorithms using Kaldi, C++, and Cython for the server backend
- Wrote a paper about Mandarin Chinese tone classification, see **PUBLICATION**
- Building an L2 learner's Mandarin speech corpus right now
- Funded by DKU Summer Research Program in 2020
- Research experience reported on DKU official webpage: https://dukekunshan.edu.cn/zh/news/in-data-students-find-thei-truth
- Also the topic for my signature work and the research focus for my internship at Xiaomi (see **INTERNSHIP**).

Chinese Endemic Bird Image Dataset
Constructed a high-quality image dataset of Chinese endemic birds
- Scraped data from Google images
- Obtained and cleaned around 100 GB of images, containing about 1300 bird categories

INTERNSHIP

Xiaomi Inc. May 2021-Present
Research Assistant Intern Beijing, China
- Improved existing CAPT system's performance using end-to-end speech recognition and unsupervised speech processing
- Extended Xiaomi's existing CAPT system to support Mandarin

- Supervised by Dr. Yujun Wang, the director of the speech technology department

iFLYTEK Co., Ltd.   Jul 2020-Aug 2020
Assistant Software Engineer Intern   Chengdu, China
Created various software tools for the *Xunfei Yingyutong*, an AI English pronunciation coaching device using CAPT technology to help the users improve their English proficiency. For example, automatic price monitor for third-party online shops and network traffic diagnosis.

EXTRACURRICULAR ACTIVITIES

Presento Team, Dii (DKU iNNOVATION iNCUBATOR) 2020 Batch   Dec 2020-Present
Core Technical Member
Our team built an AI communication coaching app that can provide an intelligent and personalized evaluation and feedback to improve users' communication skills. We developed a multi-modal method utilizing the power of facial emotion detection, speech evaluation, paralinguistics, NLP, and pose estimation
- Implemented speech quality evaluation (including fluency, vocabulary, and intelligibility) and body language detection functionalities
- Reported in Dii news: https://mp.weixin.qq.com/s/EGfpfsR8mtLrhVbkPEHKGw

Technical Artisans Club at Duke Kunshan University   Mar 2020-May 2020
Deputy Director
- Organized and hosted various large C/C++ training sessions for freshman
- Wrote a forum system for DKU
- Contributed to the DKU Online Judge website and the problem set

TECHNICAL SKILLS

Besides speech processing, I have a wide range of skills:
- C++, Java, Python, Linux, and deep learning toolkits (PyTorch, Espnet, Kaldi)
- SGE, SLURM
- Game engines (Unity, Godot) and mobile development (Android/iOS development and Flutter framework)
- Database related technologies (SQL, PostgreSQL, SQLAlchemy, MongoDB)
- Git-based software development workflow, contributed to open-source projects like Espnet and Wenet

ADDITIONAL INFORMATION

- Languages: Chinese-Native, TOEFL 109, GRE 326
- Worked as a remote volunteer during Interspeech 2020, responsible for reviewing conference videos, sending emails, and managing zoom meetings.
- Designed my object-oriented programming language and constructed a compiler for it using C++ and LLVM (https://github.com/tjysdsg/tan)