Jiu FENG

Google Scholar | jiufeng2000@gmail.com
GitHub | Personal Homepage

Education

KAIST — *Daejeon, South Korea*
M.S. in Electrical Engineering. ***GPA:4.3/4.3*** — *Sept. 2022 - Jun. 2024*
Supervisor: Prof. Joon Son Chung

Sichuan University (SCU) — *Chengdu, China*
B.Eng. in Software Engineering. ***GPA: 3.92/4.0, Ranking: 3/215 (Top 1.4%)*** — *Sept. 2018 - Jun. 2022*
Member of Wu YuZhang Honors College. Supervisor: Prof. Qijun Zhao

Position Experience

KAIST. Multimodal AI (MMAI) Lab. — *Daejeon, South Korea*
Research Assistant. Supervisor: Prof. Joon Son Chung — *Aug. 2022 - Present*

KAIST. Robotics and Computer Vision (RCV) Lab. — *Daejeon, South Korea*
Research Intern. Supervisor: Prof. In So Kweon — *Nov. 2021 - Apr. 2022*

Publications & Preprints

[1] From Coarse To Fine: Efficient Training for Audio Spectrogram Transformers
Jiu Feng*, Mehmet Hamza Erol*, Joon Son Chung, Arda Senocak.*
Under Review

Brief Intro: This paper presents a multi-phase training approach for audio spectrogram transformers, combining a coarse-to-fine strategy with transformer models for efficient learning and convergence, and explores three strategies—Frame-Shift, Pooling, and Patchification—for temporal compression of mel-spectrograms.

[2] FlexiAST: Flexibility is What AST Needs.
Jiu Feng*, Mehmet Hamza Erol*, Joon Son Chung, Arda Senocak.*
INTERSPEECH 2023

Brief Intro: This paper introduces FlexiAST, a versatile model that overcomes the limitations of conventional Audio Spectrogram Transformers (ASTs) in managing varying patch sizes during evaluation. By proposing a flexible training procedure that enhances existing ASTs without necessitating architectural modifications, FlexiAST demonstrates proficiency in handling diverse patch sizes effortlessly for audio classification tasks.

[3] Decoupled adversarial contrastive learning for self-supervised adversarial robustness.
Chaoning Zhang, Kang Zhang*, Chenshuang Zhang, Axi Niu,* ***Jiu Feng****, Chang D. Yoo, and In So Kweon.*
ECCV 2022 (**Oral**)

Brief Intro: The paper presents a novel framework, DeACL, that decouples adversarial training and self-supervised learning to achieve state-of-the-art adversarial robustness without labels, significantly reducing training time.

[4] Noise augmentation is all you need for FGSM fast adversarial training: Catastrophic overfitting and robust overfitting require different augmentation.
Chaoning Zhang, Kang Zhang*, Axi Niu, Chenshuang Zhang,* ***Jiu Feng****, Chang D. Yoo, and In So Kweon.*
arXiv e-prints (2022)

Brief Intro: This paper presents NoiseAug, a simple regularization method that outperforms existing methods in adversarial training by improving local linearity and avoiding catastrophic overfitting.

Awards & Scholarships

KAIST Full Scholarship for M.S. Students *2022*
Provincial Outstanding Graduates (*Top 3% in Sichuan Province*) *2022*
National Scholarship by Ministry of Education of China (*Top 1% in SCU, Top 0.2% in China*) *2021*
Special Award of Wang Wen Guo Scholarship (*5 Winners in Honors College*) *2021*
First-class Scholarship of Sichuan University (*Top 2% in SCU*) *2021*
National Encouragement Scholarship (*Awarded for two years*) *2019*

Competition Experience

- **First Prize** in the Asia and Pacific Mathematical Contest in Modeling (APMCM) in 2021
- **Meritorious Winner** in Interdisciplinary Contest In Modeling (ICM) in 2021
- **Gold Medal** in International Genetically Engineered Machine Competition (IGEM) in 2021
- **National Second Prize** in "Higher Education Cup" Contemporary Undergraduate Mathematical Contest in Modeling (CUMCM) in 2019

Project Experience

**All the projects belong are based on College Students' Innovative Entrepreneurial Training Plan Program*

Hide and Speak: A Deep Learning-Based Method and Application for Data Hiding. *Chengdu, China*
Team Member. Supervisor: Prof. Qijun Zhao *2021*
National Project: In this project, we explore the development of a generative adversarial learning-based method to create fake digital watermarks, challenging the robustness of current watermarking techniques.

Speech-based Attribute Recognition of Giant Pandas *Chengdu, China*
Team Leader. Supervisor: Prof. Qijun Zhao *2021*
Campus Project: In collaboration with the Chengdu Giant Panda Breeding Research Base, we developed a deep learning approach using their panda vocalization data to recognize panda behaviors and emotions, beneficial for conservation efforts.

MindTogether: A New Concept Online Communication and Collaboration Platform. *Chengdu, China*
Team Leader. Supervisor: Prof. Qiuhui Yang *2020*
National Project: We developed a web-based interactive whiteboard for real-time collaboration. Participants can communicate through text input, drawing figures, and uploading images. Given the context of the early 2020 pandemic, this application holds substantial potential.

Leaderships

- Outstanding Graduate Leader of SCU in 2022
- Student Union Minister of International Exchange Department from 2019 to 2021
- Outstanding Student Union Minister of SCU in 2021
- Outstanding Student Leader of SCU in 2020
- Excellent Student of SCU in 2019
- Student Union President in Senior High School

Skills

Languages Chinese: Native, English: Fluent (IELTS 7.5).
Coding Python, Pytorch, Java, C, SQL, HTML, CSS, JavaScript, MATLAB.
Misc. Photography, Video Editing, Chinese Calligraphy, Sports.