Chao Feng

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Education

University of Michigan, Ann Arbor, MI 01/2021 – 04/2023 (expected)

M.S. in Signal & Image Processing and Machine Learning, ECE division of EECS Dept., GPA: 4.0/4.0

University of Electronic Science and Technology of China, Chengdu, China 09/2016 – 06/2020

B.Eng. in Electronic Information Engineering, GPA: 88.79/100 (3.86/4.0), Rank: 25/260

Publications & Preprints

- **Chao Feng**, Ziyang Chen, Andrew Owens. Self-Supervised Video Forensics by Audio-Visual Anomaly Detection. Submitted to *Computer Vision and Pattern Recognition (CVPR)*, 2023. Under review. [Page] [PDF]
- Chao Zhang*, **Chao Feng***, Shuaicheng Liu, Ce Zhu. ACML: Augmented Competitive Metric Learning for Image Ordinal Classification. Submitted to *Computer Vision and Pattern Recognition (CVPR)*, 2023. Under review.
- Eric Zhongcong Xu, Zeyang Song, Satoshi Tsutsui, **Chao Feng**, Mang Ye, Mike Zheng Shou. AVA-AVD: Audio-Visual Speaker Diarization in the Wild. Accepted by *ACM Multimedia (MM)*, 2022. [PDF]

Research Experience

Self-Supervised Video Forensics by Audio-Visual Anomaly Detection 02/2022 – 12/2022

University of Michigan Owens Lab, Research Associate *Advisor: Andrew Owens*

- Proposed self-supervised zero-shot audio-visual methods for video forensics
- Formulated video forensics as the task of anomaly detection; built decoder-only autoregressive Transformer models on top of features extracted by pretrained audio-visual synchronization models
- Achieved strong cross-manipulations, cross-datasets, and unseen perturbations generalization capability

Audio-Visual Speaker Diarization in the Wild 05/2021 – 08/2021

National University of Singapore (NUS) Show Lab, Research Intern *Advisor: Mike Zheng Shou*

- Created in-the-wild audio-visual speaker diarization benchmark AVA-AVD dataset
- Reimplemented audio-visual baselines on AMI corpus to demonstrate significance of AVA-AVD dataset

Augmented Competitive Metric Learning for Image Ordinal Classification 09/2020 – 05/2021

UESTC Institute of Image Processing, Research Assistant *Advisor: Shuaicheng Liu*

- Designed a novel loss and adopted concept of CutMix for image ordinal classification (IOC)
- Proposed a multi-task learning framework to fully utilize ordinal information among samples
- Achieved state-of-the-art accuracy on two datasets (CarDb, Adience)

I also have spent some time working with Professor Qiaozhu Mei at UMich on fairness and graph neural network.

Selected Projects

NeRF Implementation 12/2022 – 01/2023

- Reimplemented neural radiance field (NeRF) for novel view synthesis

MTCSNN: Multi-Task Clinical Siamese Neural Network 02/2022 – 05/2022

- Proposed multi-task Siamese neural networks to incorporate sequential information among labels
- Improved accuracy and AUC on RetinaMNIST dataset compared with several baselines like ResNet-18

Radar Image Super-Resolution 10/2019 – 05/2020

- Designed DenseNet-based model for synthetic aperture radar (SAR) image super-resolution

Selected Awards

- Outstanding Graduates (top 10%) 2020
- First-Class Scholarship (top 10%) 2017, 2018

Skills

Programming Languages: Python, C++, Julia, MATLAB, C, Bash
Tools and Frameworks: Git, LaTeX, PyTorch, Keras, Docker

Professional Services

Reviewer: CVPR 2022, WACV 2023