Wentian Zhang

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Education

- **Shenzhen University - Computer Vision Institute** Shenzhen, China
  M.S. in Computer Science *June. 2020 - July. 2023*
  - Supervisor: Prof. Feng Liu and Prof. Linlin Shen
  - Research Interests: Self-supervised Learning, Anomaly Detection and Graph Embedding

Selected Publications

1. **W. Zhang**, H. Liu, F. Liu, R. Ramachandra, & C. Busch (2022). Effective Presentation Attack Detection Driven by Face Related Task. **ECCV'2022**. [paper] [code]
2. **W. Zhang**, X. Sun, Y. Li, H. Liu, N. He, F. Liu, & Y. Zheng (2022). A Multi-task Network with Weight Decay Skip Connection Training for Anomaly Detection in Retinal Fundus Images. **MICCAI'2022**. [paper] [code]
3. **W. Zhang**, H. Liu, F. Liu, & R. Ramachandra (2022). A Uniform Representation Learning Method for OCT-based Fingerprint Presentation Attack Detection and Reconstruction. arXiv preprint arXiv:2209.12208. [paper]
4. H. Liu†, **W. Zhang**†, B. Li, H. Wu, N. He, Y. Huang, Y. Li, B. Ghanem, & Y. Zheng. AdaptiveMix: Robust Feature Representation via Shrinking Feature Space. **CVPR'2023 († Equal Contribution)**.
5. H. Liu†, **W. Zhang**†, J. Xie†, H. Wu, B. Li, Z. Zhang, Y. Li, Y. Huang, B. Ghanem, & Y. Zheng (2022). Decoupled Mixup for Out-of-Distribution Visual Recognition. European Conference on Computer Vision Workshop. **ECCVW'2022 († Equal Contribution)**. [paper] [code]
6. Z Kong†, **W. Zhang**†, F Liu, W Luo, H Liu, L Shen, R Raghavendra (2023). Taming Self-Supervised Learning for Presentation Attack Detection: De-Folding and De-Mixing. **IEEE T-NNLS († Equal Contribution)**.
7. H. Wu, K. Chen, H. Liu, M. Zhuge, B. Li, R. Qiao, X. Shu, B. Gan, L. Xu, B. Ren, M. Xu, **W. Zhang**, R. Ramanchandra, C. Lin, & B. Ghanem(2023). NewsNet: A Novel Dataset for Hierarchical Temporal Segmentation. **CVPR'2023**.
8. H. Liu, **W. Zhang**, F. Liu, H. Wu, & L. Shen (2021). Fingerprint Presentation Attack Detector Using Global-Local Model. **IEEE T-Cybernetics**. [paper] [code]
9. F. Liu, H. Liu, **W. Zhang**, G. Liu, & L. Shen (2021). One-Class Fingerprint Presentation Attack Detection Using Auto-Encoder Network. **IEEE T-IP**. [paper]

Awards, Grants & Honors

China National Scholarship (**Rate $\leq$ 0.02%**) 2022
Excellent Academic Scholarship, First Class 2021
Excellent Academic Scholarship, First Class 2020
National University Big Data Application Innovation Competition, First Place 2018

Research Experience

- **AI Initiative (KAUST)** Saudi Arabia
  Visiting student supervised by Dr. Bing Li. Closely cooperate with Haozhe Liu
  - Proposed a robust adversarial learning method by shrinking feature space in the training phase, which is accepted by **CVPR'2023**.
  - Participated to establish a novel dataset for hierarchical temporal segmentation, which is accepted by **CVPR'2023**.
- **Norwegian Biometrics Laboratory (NTNU)** Gjøvik, Norway
  Collaborating with Prof. Raghavendra Ramachandra
  - Proposed a face presentation attack detector based on the taskonomy features, which is accepted by **ECCV'2022**.
- **Jarvis Lab (Tencent)** Shenzhen, China
  Internship supervised by Xu Sun & Yuexiang Li and Director: Yefeng Zheng
  - Proposed a weight decay strategy to progressively mute the skip connections of U-Net for anomaly detection task, which is accepted by **MICCAI'2022**.
  - Participated to NICO Challenge (**ECCVW'2022**), our team reach to 5th/40 in both tracks at Phase I, and 4th in Track 2 at Final Phase.
- **Institute of Artificial Intelligence and Robotics for Society (CUHK)** Shenzhen, China
  Visiting student supervised by Prof. David Zhang
  - Participated to collect a multi-modal biometrics dataset, which contains face, fingerprint and palmprint samples from 10k subjects.
  - Proposed to apply a 3D convolution network to extract palmprint features which can be further encoded for recognition.
- **Computer Vision Institute (Shenzhen University)** Shenzhen, China
  M.S. in Biometrics Group supervised by Prof. Feng Liu and Prof. Linlin Shen
  - Proposed a uniform representation learning method for OCT-based Fingerprint anti-spoofing and Recognition.
  - Proposed a minutiae extraction model with fusion-attention mechanisms for multi-layered OCT fingerprints.
  - Proposed to establish a one-class framework for OCT based PAD. This work is accepted by **IEEE TIP**