SHAO, Rui (邵睿)

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❖ Education

Ph.D Department of Computer Science, Hong Kong Baptist University, China 2017-2021

M.S. School of Computer Science, Wuhan University, China 2015-2016

B.S. School of Information and Communication Engineering,
University of Electronic Science and Technology of China, China 2011-2015

High School Shenzhen Foreign Languages School, China 2008-2011

❖ Research Experience

- **Nanyang Technological University, Singapore**
  Research fellow Supervisor: Prof. Ziwei Liu Nov. 2021– Now
  - Robustness and generalization of deep learning, with applications to deepfake detection
- **Hong Kong Baptist University, Hong Kong, China** Mar. 2017– May. 2021
  Ph.D student Supervisor: Prof. Pong C. Yuen
  - Robustness and generalization of deep learning, with applications to the defense of face presentation attacks and adversarial attacks.
- **Johns Hopkins University, Baltimore, U.S.** Feb. 2020– July. 2020
  Visiting scholar Supervisor: Vishal M Patel
  - Adversarial attacks/defense and open-set recognition.
- **Wuhan Univeristy, NERCMS, Wuhan, China** July. 2015– June. 2016
  Master student Supervisor: Prof. Ruimin Hu
  - Person re-identification and instance search in large scale video applications.

❖ Publications [Google Scholar]

- **Journal Papers:**
  1. **Rui Shao**, Pramuditha Perera, Pong C. Yuen, Vishal M. Patel. "Open-set Adversarial Defense with Clean-Adversarial Mutual Learning". *International Journal of Computer Vision (IJCV), 2022.*
  2. **Rui Shao**, Pramuditha Perera, Pong C. Yuen, Vishal M. Patel. "Federated Generalized Face Presentation Attack Detection". *IEEE Transactions on Neural Networks and Learning Systems (TNNLS).2022.*
  3. **Rui Shao**, Xiangyuan Lan, Pong C. Yuen. "Joint Discriminative Learning of Deep Dynamic Textures for 3D Mask Face Anti-spoofing". *IEEE Transactions on Information Forensics and Security (TIFS), 2019*.
  4. **Rui Shao**, Xiangyuan Lan. "Adversarial Auto-encoder for Unsupervised Deep Domain Adaptation". *IET Image Processing, 2019.*
  5. Xiangyuan Lan, Mang Ye, **Rui Shao**, Bineng Zhong, Pong C. Yuen, Huiyu Zhou. "Learning Modality-Consistency Feature Templates: A Robust RGB-Infrared Tracking System". *IEEE Transactions on Industrial Electronics (TIE), 2019.*
  6. Xiangyuan Lan, Mang Ye, **Rui Shao**, Bineng Zhong, Deepak Kumar Jain, Huiyu Zhou. "Online Non-Negative Multi-Modality Feature Template Learning for RGB-Assisted Infrared Tracking". *IEEE Access, 2019.*

- **Conference Papers:**
  1. **Rui Shao**, Pramuditha Perera, Pong C. Yuen, Vishal M. Patel. "Open-set Adversarial Defense". *European Conference on Computer Vision (ECCV), 2020.*
  2. **Rui Shao**, Tianxing Wu, Ziwei Liu. "Detecting and Recovering Sequential DeepFake Manipulation". *European Conference on Computer Vision (ECCV), 2022 (under review).*
  3. **Rui Shao**, Bochao Zhang, Pong C. Yuen, Vishal M. Patel. "Federated Test-Time Adaptive Face Presentation Attack Detection with Dual-Phase Privacy Preservation". *IEEE International Conference on Automatic Face and Gesture Recognition (FG), 2021.*
  4. **Rui Shao**, Xiangyuan Lan, Pong C. Yuen. "Regularized Fine-grained Meta Face Anti-spoofing". *Thirty-Fourth AAAI Conference on Artificial Intelligence (AAAI), 2020.*
  5. **Rui Shao,** Xiangyuan Lan, Jiawei Li, Pong C. Yuen."Multi-adversarial Discriminative Deep Domain Generalization for Face Presentation Attack Detection". *IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2019.*
  6. **Rui Shao**, Xiangyuan Lan, Pong C. Yuen. "Feature Constrained by Pixel: Hierarchical Adversarial Deep Domain Adaptation". *ACM international conference on Multimedia (ACM MM), 2018.*
  7. **Rui Shao**, Xiangyuan Lan, Pong C. Yuen. "Deep Convolutional Dynamic Texture Learning with Adaptive Channel-discriminability for 3D Mask Face Anti-spoofing". *International Joint Conference on Biometrics (IJCB), 2017.*
  7. Chong Yin, Siqi Liu, **Rui Shao**, Pong C. Yuen. "Focusing on Clinically Interpretable Features: Selective Attention Regularization for Liver Biopsy Image Classification". *Medical Image Computing and Computer Assisted Interventions (MICCAI), 2021.*

- **Technical Reports**
  1. Lei Yao, Mang Ye, Dongjing Liu, **Rui Shao**, Tao Liu, Jun Liu, Zheng Wang, Chao Liang. "WHU-NERCMS at TRECVID2015: Instance Search Task". *Participant Notebook Paper, TRECVID, 2015. (**Ranked 4th**/31 teams)*
  2. Zheng Wang, Yang Yang, Shuosen Guan, Chenxia Han, Jiamei Lan, **Rui Shao**, Jinqiao Wang, Chao Liang. "WHU-NERCMS at TRECVID2016: Instance Search Task". *Participant Notebook Paper, TRECVID, 2016.*

❖ Professional Services

Program Committee Member: AAAI 2021

Invited or Anonymous Reviewer:

Journal: IEEE Transactions on Information Forensics and Security, Neural Networks, Pattern Recognition, Journal of Selected Topics in Signal Processing

Conference: CVPR 2020 2019, AAAI 2019 2017, IJCAI 2018, ACM MM 2018, ICPR 2018, ICB 2019 2018, ICASSP 2018

Student Volunteer for:

IAPR/IEEE Winter School on Biometrics 2017.

❖ Awards

2019-2020 Computer Science Department RPg Performance Award

2018-2019 Computer Science Department RPg Performance Award

2017-2018 Computer Science Department RPg Performance Award

2013-2014 People's Second-Class Scholarship

2012-2013 People's Second-Class Scholarship

2011-2012 People's Second-Class Scholarship