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## ❖ Education

<b>Ph.D</b>	Department of Computer Science,	Hong Kong Baptist University, China	2017-2021
<b>M.S.</b>	School of Computer Science,	Wuhan University, China	2015-2016
<b>B.S.</b>	School of Information and Communication Engineering, University of Electronic Science and Technology of China, China		2011-2015
<b>High School</b>	Shenzhen Foreign Languages School, China		2008-2011

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## ❖ 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 University, NERCMS, Wuhan, China** July. 2015– June. 2016  
Master student Supervisor: [Prof. Ruimin Hu](#)  
- Person re-identification and instance search in large scale video applications.

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## ❖ Publications [\[Google Scholar\]](#)

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**, 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.
3. **Rui Shao**, Pramuditha Perera, Pong C. Yuen, Vishal M. Patel. "Open-set Adversarial Defense". European Conference on Computer Vision (ECCV), 2020.
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. "Joint Discriminative Learning of Deep Dynamic Textures for 3D Mask Face Anti-spoofing". IEEE Transactions on Information Forensics and Security (TIFS), 2019.
7. **Rui Shao**, Xiangyuan Lan, Pong C. Yuen. "Feature Constrained by Pixel: Hierarchical Adversarial Deep Domain Adaptation". ACM international conference on Multimedia (ACM MM), 2018.
8. **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.

9. **Rui Shao**, Xiangyuan Lan. "Adversarial Auto-encoder for Unsupervised Deep Domain Adaptation". IET Image Processing, 2019.
10. **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). (Under Review)
11. 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.
12. 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.
13. 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.

## 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.

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## ❖ 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.

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## ❖ 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