Yunhang Shen 沈云航

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Education

Ph.D candidate of Computer Science and Technology 2017.09 - Present

Xiamen University (XMU), Fujian, China

Advisor: Prof. Rongrong Ji

Master of Computer Technology 2014.09 - 2017.06

Xiamen University (XMU), Fujian, China

Advisor: Prof. Rongrong Ji

Bachelor of Intelligence Science and Technology 2010.09 - 2014.06

Xiamen University (XMU), Fujian, China

Research Experience

Tencent Youtu Lab. Shanghai, China 2018.09 - 2018.11

Summer Intern

Worked on project: Person Re-identification.

- Proposed an end-to-end part power set model for person re-ID
- Proposed a multi-scale features person re-ID
- Write a paper accepted by IJCAI 2019

Microsoft Research Asia. Beijing, China 2016.06 - 2017.06

Internship Advisor: Dr. Changhu Wang

Worked on improve weakly supervised object detection.

- Improved weakly supervised object detection with category-specific pixel gradient map
- Improved weakly supervised object detection with multi-center regularization
- Write a paper accepted by TIP 2019

Tencent Youtu Lab. Shanghai, China 2015.08 - 2015.09

Summer Intern

Worked on project: Query-by-Singing/Humming(QBSH) for the QQ music system.

- Developed tools to visualize and analyse the query result
- Optimized the Pyin feature 10% efficient
- Achieved No.1 on the Music Information Retrieval Evaluation eXchange (MIREX), 2015

Publication

- **Yunhang Shen**, Rongrong Ji*, Zhiwei Chen, Yongjian Wu, Feiyue Huang. UWSOD: Toward Fully-Supervised-Level Capacity Weakly Supervised Object Detection. Conference on Neural Information Processing Systems (NeurIPS), 2020.

- **Yunhang Shen**, Rongrong Ji*, Yan Wang, Zhiwei Chen, Feng Zheng, Feiyue Huang, Yunsheng Wu. Enabling Deep Residual Networks for Weakly Supervised Object Detection. European Conference on Computer Vision (ECCV), 2020.
- **Yunhang Shen**, Rongrong Ji*, Zhiwei Chen, Xiaopeng Hong, Feng Zheng, Jianzhuang Liu, Mingliang Xu, Qi Tian. Noise-Aware Fully Webly Supervised Object Detection. IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR), 2020.
- **Yunhang Shen**, Rongrong Ji*, Kuiyuan Yang, Cheng Deng, Changhu Wang. Category-Aware Spatial Constraint for Weakly Supervised Detection. IEEE Transactions on Image Processing (TIP), 2019.
- **Yunhang Shen**, Rongrong Ji*, Xiaopeng Hong, Feng Zheng, Xiaowei Guo, Yongjian Wu, Feiyue Huang. A Part Power Set Model for Scale-Free Person Retrieval. International Joint Conference on Artificial Intelligence (IJCAI), 2019.
- **Yunhang Shen**, Rongrong Ji*, Yan Wang, Yongjian Wu and Liujuan Cao. Cyclic Guidance for Weakly Supervised Joint Detection and Segmentation. IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR), 2019.
- **Yunhang Shen**, Rongrong Ji*, Shengchuan Zhang, Wangmeng Zuo and Yan Wang. Generative Adversarial Learning Towards Fast Weakly Supervised Detection. IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR), 2018.
- **Yunhang Shen**, Rongrong Ji*, Changhu Wang, Xi Li and Xuelong Li. Weakly Supervised Object Detection via Object-Specific Pixel Gradient. IEEE Transactions on Neural Networks and Learning Systems (TNNLS), 2018.
- Xianming Lin, **Yunhang Shen**, Ling Cai, and Rongrong Ji*. The Distributed System for Inverted Multi-index Visual Retrieval. Neurocomputing, 2016.
- **Yunhang Shen**, Rongrong Ji*, Donglin Cao, and Min Wang. Hacking Chinese Touclick CAPTCHA by Multi-Scale Corner Structure Model with Fast Pattern Matching. ACM International Conference on Multimedia (ACM MM), 2014.
- Fei Chao*, Fuhai Chen, **Yunhang Shen**, Wenli He, Yan Sun, Zhengshuai Wang, Changle Zhou, and Min Jiang. Robotic Free Writing of Chinese Characters via Human-Robot Interactions. International Journal of Humanoid Robotics, 2014.

✎ Patent

- Rongrong Ji, Xianming Lin, **Yunhang Shen**. 2020. Convolutional neural network model-based violence and terrorism video detection method. CN Patent CN106778590B.
- Rongrong Ji, **Yunhang Shen**. 2020. Weak supervision target detection method based on specific category spatial constraint. CN Patent CN108062574B.

♡ Honor and Award

National Scholarship	2019
National Scholarship	2016
National Scholarship	2015
1st Prize and new records, Award on the Music Information Retrieval Evaluation eXchange	2015
National Endeavor Scholarship	2013
1st Prize, Award on the National Intelligent Design Competition	2013
National Endeavor Scholarship	2011