Junjie Yan, Ph.D.

yanjunjie@sensetime.com
http://yan-junjie.github.io/

Working Experience

SenseTime

- **CTO of Smart City Group & Vice Head of Research** [Since 2019.01]
  Lead the R&D Team within Smart City Group (SenseTime's largest business group) to build system architectures and algorithms that make cities safer and more efficient.
  Lead the SenseTime Deep Learning Toolchain Team to develop the toolchain from algorithm components to distributed training and inference platformenables deep learning solutions scale up to more than 700 customers.
- **Vice Head of Research** [Since 2017.01]
  Founded and led the Video Intelligence Department (SenseTime's largest research team) to build intelligent solutions about face, pedestrian, vehicle and text.
  Founded and led the Fundamental Research Department, which explores techniques such as AutoML, making deep learning techniques scale up to more than 400 customers.
- **Research Director** [2014.11 – 2017.01]
  Founded the Object Perception Group and Face Recognition Group, which had led the exponential growth in both accuracy and applicable usage of face recognition.
  The first SenseTime Prize, and the only one Best Team Award.

Baidu

- **Research Intern** [2014.04 – 2014.11]. Institute of Deep Learning, Baidu.
  Initialized the Reserarch of Object Detection in Baidu.
  Baidu Fellowship (one of the eight Chinese PhD students around the world), 2014
  Excellent Research Intern (one of the two interns at Baidu IDL), 2014

Education

2016.04 – 2018.03

- **Postdoctoral Fellow, Department of Computer Science, Tsinghua University** in Computer Vision.
  Thesis title: *Efficient Object Detection.*
  Supervisor: Prof. Bo Zhang (Fellow of Chinese Academy of Sciences).

2010.09 – 2015.06

- **Ph.D., (Hons) National Laboratory of Pattern Recognition, Chinese Academy of Sciences** in Computer Vision.
  Thesis title: *Structural Model for Object Detection.*
  Supervisor: Prof. Stan Z. Li (IEEE Fellow).

2006.09 – 2010.06

- **B.Sc., (Hons) Department of Mathematics, Southeast University.**
  President Award for Outstanding Performance.

Research Publications

4000+ citations and 31 h-index according to Google Scholar.
42 papers published in CVPR/ICCV/ECCV, which are the top-3 conferences on computer vision. 3 papers published in T-PAMI, which is the top-1 journal in artificial intelligence.

Journal Articles

1. Kang, K., Li, H., Yan, J., Zeng, X., Yang, B., Xiao, T., … Ouyang, W. (2018). T-CNN: tubelets with convolutional neural networks for object detection from videos. *IEEE Trans. Circuits Syst. Video Techn. 28*(10), 2896–2907.

2. Ouyang, W., Zhou, H., Li, H., Li, Q., Yan, J. & Wang, X. (2018). Jointly learning deep features, deformable parts, occlusion and classification for pedestrian detection. *IEEE Trans. Pattern Anal. Mach. Intell. 40*(8), 1874–1887.

3. Zeng, X., Ouyang, W., Yan, J., Li, H., Xiao, T., Wang, K., … Wang, X. (2018). Crafting gbd-net for object detection. *IEEE Trans. Pattern Anal. Mach. Intell. 40*(9), 2109–2123.

4. Ouyang, W., Zeng, X., Wang, X., Qiu, S., Luo, P., Tian, Y., … Tang, X. (2017). Deepid-net: Object detection with deformable part based convolutional neural networks. *IEEE Trans. Pattern Anal. Mach. Intell. 39*(7), 1320–1334.

5. Yan, J., Zhang, X., Lei, Z. & Li, S. Z. (2014). Face detection by structural models. *Image Vision Comput. 32*(10), 790–799.

Conference Proceedings

1. Chen, K., Wu, Y., Qin, H., Liang, D., Liu, X. & Yan, J. (2019). R3 adversarial network for cross model face recognition. In *IEEE conference on computer vision and pattern recognition,* ***CVPR 2019***.

2. Guo, M., Zhong, Z., Wu, W., Lin, D. & Yan, J. (2019). Irlas: Inverse reinforcement learning for architecture search. In *IEEE conference on computer vision and pattern recognition,* ***CVPR 2019***.

3. Guo, Q., Yu, Z., Wu, Y., Liang, D., Qin, H. & Yan, J. (2019). Dynamic recursive neural network. In *IEEE conference on computer vision and pattern recognition,* ***CVPR 2019***.

4. Li, B., Wu, W., Yan, J., Yang, Q., Zhang, F. & Xing, J. (2019). Siamrpn++: Evolution of siamese visual tracking with very deep networks. In *IEEE conference on computer vision and pattern recognition,* ***CVPR 2019 Oral***.

5. Li, R., Liang, F., Qin, H., Wang, Y., Fan, R. & Yan, J. (2019). Fully quantized network for object detection. In *IEEE conference on computer vision and pattern recognition,* ***CVPR 2019***.

6. Lu, X., LI, B., Yue, Y., Li, Q. & Yan, J. (2019). Grid r-cnn. In *IEEE conference on computer vision and pattern recognition,* ***CVPR 2019***.

7. Pan, J., Wang, C., Jia, X., Shao, J., Sheng, L., Yan, J. & Wang, X. (2019). Video generation from single semantic label map. In *IEEE conference on computer vision and pattern recognition,* ***CVPR 2019***.

8. Yang, L., Zhan, X., Chen, D., Yan, J., Loy, C. C. & Lin, D. (2019). Learning to cluster faces on an affinity graph. In *IEEE conference on computer vision and pattern recognition,* ***CVPR 2019 Oral***.

9. Zhang, X., Zhao, R., Yan, J., Gao, M., Qiao, Y., Wang, X. & Li, H. (2019). P2sgrad: Refined gradients for optimizing deep face models. In *IEEE conference on computer vision and pattern recognition,* ***CVPR 2019***.

10. Li, B., Yan, J., Wu, W., Zhu, Z. & Hu, X. (2018). High performance visual tracking with siamese region proposal network. In *IEEE conference on computer vision and pattern recognition,* ***CVPR 2018***.

11. Lin, C., Zhong, Z., Wei, W. & Yan, J. (2018). Synaptic strength for convolutional neural network. In *Annual conference on neural information processing systems 2018,* ***NeurIPS 2018***.

12. Liu, P., Liu, X., Yan, J. & Shao, J. (2018). Localization guided learning for pedestrian attribute recognition. In *British machine vision conference 2018,* ***BMVC 2018***,

13. Liu, X., Liang, D., Yan, S., Chen, D., Qiao, Y. & Yan, J. (2018). FOTS: fast oriented text spotting with a unified network. In *IEEE conference on computer vision and pattern recognition,* ***CVPR 2018***.

14 Liu, Y., Sheng, L., Shao, J., Yan, J., Xiang, S. & Pan, C. (2018). Multi-label image classification via knowledge distillation from weakly-supervised detection. In *2018 ACM multimedia conference on multimedia conference,* ***ACMMM 2018***.

15 Liu, Y., Wei, F., Shao, J., Sheng, L., Yan, J. & Wang, X. (2018). Exploring disentangled feature representation beyond face identification. In *IEEE conference on computer vision and pattern recognition,* ***CVPR 2018***.

16 Shen, Y., Luo, P., Yan, J., Wang, X. & Tang, X. (2018). Faceid-gan: Learning a symmetry three-player GAN for identity-preserving face synthesis. In *IEEE conference on computer vision and pattern recognition,* ***CVPR 2018***.

17 Song, G., Liu, Y., Jiang, M., Wang, Y., Yan, J. & Leng, B. (2018). Beyond trade-off: Accelerate fcn-based face detector with higher accuracy. In *IEEE conference on computer vision and pattern recognition,* ***CVPR 2018***.

18 Tian, M., Yi, S., Li, H., Li, S., Zhang, X., Shi, J., … Wang, X. (2018). Eliminating background-bias for robust person re-identification. In *IEEE conference on computer vision and pattern recognition,* ***CVPR 2018***.

19 Wang, S., Zhou, Y., Yan, J. & Deng, Z. (2018). Fully motion-aware network for video object detection. In *15th european conference on computer vision,* ***ECCV 2018***.

20 Wei, Y., Pan, X., Qin, H., Ouyang, W. & Yan, J. (2018). Quantization mimic: Towards very tiny CNN for object detection. In *15th european conference on computer vision,* ***ECCV 2018***.

21 Xu, R., Chen, Z., Zuo, W., Yan, J. & Lin, L. (2018). Deep cocktail network: Multi-source unsupervised domain adaptation with category shift. In *IEEE conference on computer vision and pattern recognition,* ***CVPR 2018***.

22 Zhan, X., Liu, Z., Yan, J., Lin, D. & Loy, C. C. (2018). Consensus-driven propagation in massive unlabeled data for face recognition. In *15th european conference on computer vision,* ***ECCV 2018***.

23 Zhang, X., Yang, L., Yan, J. & Lin, D. (2018). Accelerated training for massive classification via dynamic class selection. In *Proceedings of the thirty-second AAAI conference on artificial intelligence,* ***AAAI 2018***.

24 Zhong, Z., Yan, J., Wu, W., Shao, J. & Liu, C. (2018). Practical block-wise neural network architecture generation. In *IEEE conference on computer vision and pattern recognition,* ***CVPR 2018***.

25 Zhu, Z., Wang, Q., Li, B., Wu, W., Yan, J. & Hu, W. (2018). Distractor-aware siamese networks for visual object tracking. In *15th european conference on computer vision,* ***ECCV 2018***.

26 Zhu, Z., Wu, W., Zou, W. & Yan, J. (2018). End-to-end flow correlation tracking with spatial-temporal attention. In *IEEE conference on computer vision and pattern recognition,* ***CVPR 2018***.

27 Hao, Z., Liu, Y., Qin, H., Yan, J., Li, X. & Hu, X. (2017). Scale-aware face detection. In *IEEE conference on computer vision and pattern recognition,* ***CVPR 2017***.

28 Kang, K., Li, H., Xiao, T., Ouyang, W., Yan, J., Liu, X. & Wang, X. (2017). Object detection in videos with tubelet proposal networks. In *IEEE conference on computer vision and pattern recognition,* ***CVPR 2017***.

29 Li, Q., Jin, S. & Yan, J. (2017). Mimicking very efficient network for object detection. In *IEEE conference on computer vision and pattern recognition,* ***CVPR 2017***.

30 Liu, X., Zhao, H., Tian, M., Sheng, L., Shao, J., Yi, S., … Wang, X. (2017). Hydraplus-net: Attentive deep features for pedestrian analysis. In *IEEE conference on computer vision,* ***ICCV 2017***.

31 Liu, Y., Li, H., Yan, J., Wei, F., Wang, X. & Tang, X. (2017). Recurrent scale approximation for object detection in CNN. In *IEEE conference on computer vision,* ***ICCV 2017***.

32 Liu, Y., Yan, J. & Ouyang, W. (2017). Quality aware network for set to set recognition. In *IEEE conference on computer vision and pattern recognition,* ***CVPR 2017***.

33 Wang, Z., Tang, L., Liu, X., Yao, Z., Yi, S., Shao, J., … Wang, X. (2017). Orientation invariant feature embedding and spatial temporal regularization for vehicle re-identification. In *IEEE conference on computer vision,* ***ICCV 2017***.

34 Zhao, H., Tian, M., Sun, S., Shao, J., Yan, J., Yi, S., … Tang, X. (2017). Spindle net: Person re-identification with human body region guided feature decomposition and fusion. In *IEEE conference on computer vision and pattern recognition,* ***CVPR 2017***.

35 Qin, H., Yan, J., Li, X. & Hu, X. (2016). Joint training of cascaded CNN for face detection. In *IEEE conference on computer vision and pattern recognition,* ***CVPR 2016***.

36 Wang, Y., Liu, J., Li, Y., Yan, J. & Lu, H. (2016). Objectness-aware semantic segmentation. In *Proceedings of the 2016 ACM conference on multimedia conference,* ***MM 2016***.

37 Yang, B., Yan, J., Lei, Z. & Li, S. Z. (2016). CRAFT objects from images. In *IEEE conference on computer vision and pattern recognition,* ***CVPR 2016***.

38 Zeng, X., Ouyang, W., Yang, B., Yan, J. & Wang, X. (2016). Gated bi-directional CNN for object detection. In *14th european conference on computer vision ,* ***ECCV 2016***.

39 Yan, J., Yu, Y., Zhu, X., Lei, Z. & Li, S. Z. (2015). Object detection by labeling superpixels. In *IEEE conference on computer vision and pattern recognition,* ***CVPR 2015***.

40 Yang, B., Yan, J., Lei, Z. & Li, S. Z. (2015a). Convolutional channel features. In *IEEE conference on computer vision,* ***ICCV 2015***.

41 Yang, B., Yan, J., Lei, Z. & Li, S. Z. (2015b). Fine-grained evaluation on face detection in the wild. In *11th IEEE international conference and workshops on automatic face and gesture recognition,* ***FG 2015***,

42 Zhu, X., Lei, Z., Yan, J., Yi, D. & Li, S. Z. (2015). High-fidelity pose and expression normalization for face recognition in the wild. In *IEEE conference on computer vision and pattern recognition,* ***CVPR 2015***.

43 Zhu, X., Yan, J., Yi, D., Lei, Z. & Li, S. Z. (2015). Discriminative 3d morphable model fitting. In *11th IEEE international conference and workshops on automatic face and gesture recognition,* ***FG 2015***,

44 Wen, L., Li, W., Yan, J., Lei, Z., Yi, D. & Li, S. Z. (2014). Multiple target tracking based on undirected hierarchical relation hypergraph. In *IEEE conference on computer vision and pattern recognition,* ***CVPR 2014***.

45 Yan, J., Lei, Z., Wen, L. & Li, S. Z. (2014). The fastest deformable part model for object detection. In *IEEE conference on computer vision and pattern recognition,* ***CVPR 2014***.

46 Yan, J., Lei, Z., Yang, Y. & Li, S. Z. (2014). Stacked deformable part model with shape regression for object part localization. In *13th european conference on computer vision,* ***ECCV 2014***.

47 Yang, B., Yan, J., Lei, Z. & Li, S. Z. (2014). Aggregate channel features for multi-view face detection. In *IEEE international joint conference on biometrics,* ***IJCB, Best Student Paper***.

48 Yang, Y., Yang, J., Yan, J., Liao, S., Yi, D. & Li, S. Z. (2014). Salient color names for person re-identification. In *13th european conference on computer vision,* ***ECCV 2014***.

49 Yan, J., Zhang, X., Lei, Z., Liao, S. & Li, S. Z. (2013). Robust multi-resolution pedestrian detection in traffic scenes. In *IEEE conference on computer vision and pattern recognition,* ***CVPR 2013 Oral***.

50 Yan, J., Zhang, X., Lei, Z., Yi, D. & Li, S. Z. (2013). Structural models for face detection. In *10th IEEE international conference and workshops on automatic face and gesture recognition,* ***FG, Best Student Paper Honorable Mention Award***.

51 Yan, J., Lei, Z., Yi, D. & Li, S. Z. (2012). Multi-pedestrian detection in crowded scenes: A global view. In *IEEE conference on computer vision and pattern recognition,* ***CVPR 2012***.

Miscellaneous Experience

Awards and Achievements

2016
- **1-st in the ILSVRC2016 for object detection with provided training data.**

2015
- **Excellent Graduate Student**, Chinese Academy of Sciences.
- **1-st in the ILSVRC2015 for object detection from video.**

2014
- **National PhD Fellowship**, China.
- **Baidu Fellowship**, Baidu LLC.
- **Best Biometrics Student Paper Award**, International Association of Pattern Recognition.
- **3-rd in ImageNet Detection Challenge.**

2013
- **Best Student Paper Honorable Mention Award**, IEEE FG.
- **Winner of 300-W face alignment challenge**, ICCV.

2010
- **Excellent Graduate Student**, Southeast University.
- **Excellent Dissertations Award**, Southeast University.

2008
- **President Fellowship**, Southeast University.

Academic activities

2019
- Vice President, Shenzhen Association for Artificial Intelligence
- Co-Director of Joint Lab of SenseTime and Shenzhen Institutes of Advanced Technology, Chinese Academy of Sciences.

2018, 2019
- Organizer of the Wider Face and Pedestrian Challenge

Since 2013
- Regular Reviewer for top journals and conferences in computer vision, including T-PAMI, T-IP,T-CSVT, T-SMC, IJCV, CVPR, ICCV, ECCV, etc..

Miscellaneous Experience (continued)

Patents

since 2012 — More than 70 Patents licensed or in pending.