Xiaochuan Fan

Senior Research Engineer
HERE North America, LLC

Contact Information

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Education

08.2012 – 01.2016 **Ph.D. in Computer Science & Engineering**
Computer Vision Lab, University of South Carolina
Columbia, SC, USA

09.2002 – 03.2005 **M.Eng. in Signal & Information Processing**
Texas Instruments - Tianjin University DSP Lab
Tianjin, China

09.1998 – 07.2002 **B.Eng. in Electronics & Information Technology**
Tianjin University
Tianjin, China

Work Experience

02.2016 – present **Senior Research Engineer**
Highly Automated Driving (HAD), HERE maps, Chicago, IL, USA

- **Traffic sign detection**: apply latest computer vision techniques in traffic sign detection
- **Efficient object detection**: exploit intrinsic structure and global context for better and more efficient detection
- **Low-shot learning**: increase the diversity of training samples leveraging traffic sign templates

08.2012 – 08.2015 **Research Assistant**
Computer vision lab, University of South Carolina, Columbia, SC, USA

- 2D human pose estimation
- 3D human pose reconstruction
- Image segmentation
- Human attribute recognition
- Action recognition

10.2008 – 07.2012 **Senior Multimedia System Engineer**
Availink, Beijing, China (a fabless IC company)

- Designed, prototyped and verified video processing and graphics algorithms for set-top-box SoCs (de-interlacing, 2D blitter, frame rate converter, color enhancement)
- De-interlacer and 2D blitter were implemented on a SoC (over a million SoCs have been sold)

10.2005 – 07.2008 **Video Algorithm Engineer**
                   Thomson (Technicolor), Beijing, China
-        Video compression algorithm design for codec IP core

Publications

(Google scholar: https://scholar.google.com/citations?user=ElYEJZAAAAAJ&hl=en)

1. K. Zheng, **X. Fan**, Y. Lin, H. Guo, H. Yu, D. Guo, S. Wang, "Learning View-Invariant Features for Person Identification in Temporally Synchronized Videos Taken by Wearable Cameras," to appear in ICCV 2017
2. H. Guo, **X. Fan**, S. Wang, "Human Attribute Recognition by Refining Attention Heat Map," in Pattern Recognition Letters, 2017
3. Z. Meng, **X. Fan**, X. Chen, M. Chen, and Y. Tong, "Detecting Small Signs from Large Images," to appear in IEEE international conference on information reuse and integration (IRI), 2017, oral presentation
4. K. Zheng, H. Guo, **X. Fan**, H. Yu, S. Wang, "Identifying Same Persons from Temporally Synchronized Videos Taken by Multiple Wearable Cameras," in CVPR Workshop, 2016
5. H. Yu, Y. Zhou, J. Simmons, C. P. Przybyla, Y. Lin, **X. Fan**, Y. Mi, S. Wang, "Groupwise Tracking of Crowded Similar-Appearance Targets From Low-Continuity Image Sequences," in CVPR, 2016
6. **X. Fan**, L. Ju, X. Wang, and S. Wang, "A fuzzy edge-weighted centroidal Voronoi tessellation model for image segmentation," in Computers & Mathematics with Applications, 2016
7. Y. Lin, K. Abdelfatah, Y. Zhou, **X. Fan**, H. Yu, H. Qian, S. Wang, "Co-interest Person Detection from Multiple Wearable Camera Videos," in ICCV 2015
8. **X. Fan**, K. Zheng, Y. Lin, and S. Wang, "Combining local appearance and holistic view: Dual-source deep neural networks for human pose estimation," in CVPR, 2015.
9. K. Zheng, Y. Lin, Y. Zhou, Dhaval Salvi, **X. Fan**, D. Guo, Z. Meng and S. Wang, "Video-based Action Detection using Multiple Wearable Cameras" in ECCV Workshop, 2014.
10. **X. Fan**, K. Zheng, Y. Zhou, and S. Wang, "Pose locality constrained representation for 3D human pose reconstruction," in ECCV, 2014.

Professional Activities

Journal reviewer
-        International Journal of Computer Vision (IJCV)
-        Computer Vision and Image Understanding (CVIU)
-        Pattern Recognition Letters (PRL)
-        Journal of Electronic Imaging (JEI)
-        Digital Signal Processing (DSP)
Conference reviewer
-        AAAI Conference on Artificial Intelligence (AAAI) 2017
-        British Machine Vision Conference (BMVC) 2017
-        CVPR workshop: ChaLearn LAP 2015

Patent

A patent about a new network architecture for small sign detection was filed by HERE maps.