# Qingan Yan

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## Short Bio

I am a computer vision scientist at JD.com Silicon Valley Research Center in Mountain View, CA. My work focus on the field of computer vision and graphics. In particular, I tackle the challenges in *structure from motion, multi-view stereo, SLAM, image dense correspondence and fusion.* I am also interested in *geometric deep learning,* such as 3D scene understanding, guided shape recovery and unstructured data organizing.

## Work Experience

- JD.com Silicon Valley Research Center, Santa Clara, USA      Nov 2017 – current

  Position: ***Research Scientist***
  Duty: *Design efficient algorithms for JD's AR products using 3D vision and deep learning technologies.*

- Wuhan University, Wuhan, China      Jul 2015 – Jul 2017

  Position: ***Research Assistant***
  Duty: *Conduct research on scene understanding and 3D reconstruction problems.*

- CIS Academic Summer Session, Wuhan, China      Jul 2016 – Aug 2016

  Position: ***Teaching Assistant***
  Duty: *Assign tests and manage research projects with Prof. Brian A. Barsky, UC Berkeley, USA*

- Wuhan EONES technology Co.,Ltd, Wuhan, China      Jul 2008 – Apr 2009

  Position: ***Software Engineer***
  Duty: *Develop logistics management systems and GIS systems.*

## Education

- Ph.D. in Computer Science, **Wuhan University**, China      Sep 2012 – Jul 2017

  Advisor: Prof. *Chunxia Xiao*
  Areas of Focus: *Computer Vision, Computer Graphics*

- M.S. in Computer Science, **Southwest University of Science and Technology**      Sep 2009 – Jun 2012

  Advisor: Prof. *Yadong Wu*
  Areas of Focus: *Computer Vision, Image Processing, Human-Computer Interaction*

- B.E. in Computer Science, **Hubei University for Nationalities**, China      Sep 2004 – Jun 2008

  Advisor of Thesis: Prof. *Kunwu Xie*

## Publications

- Yanping Fu, **Qingan Yan**, Long Yang, Jie Liao, Chunxia Xiao. *Texture Mapping for 3D Reconstruction with RGB-D Sensor.* **IEEE Conference on Computer Vision and Pattern Recognition (CVPR), Salt Lake City, USA, 2018: 4645-4653.**

- Long Yang, **Qingan Yan**, Yanping Fu, Chunxia Xiao. *Surface reconstruction via fusing sparse-sequence of depth images.* **IEEE Transactions on Visualization and Computer Graphics (TVCG), 2018, 24(2): 1190-1203.**

- **Qingan Yan**, Long Yang, Ling Zhang, Chunxia Xiao. *Distinguishing the indistinguishable: exploring structural ambiguities via geodesic context.* **IEEE Conference on Computer Vision and Pattern Recognition (CVPR), Honolulu, USA, 2017: 3836-3844. (Spotlight Oral)**

- Ling Zhang, **Qingan Yan**, Zheng Liu, Hua Zou and Chunxia Xiao. *Illumination Decomposition for Photograph with Multiple Light Sources.* **IEEE Transactions on Image Processing (TIP), 2017, 26(9): 4114-4127.**

- Long Yang, **Qingan Yan** and Chunxia Xiao. *Shape-controllable geometry completion for point cloud models.* **The Visual Computer (TVC), 2017, 33(3): 385-398.**

- **Qingan Yan**, Long Yang, Chao Liang, Huajun Liu, Ruimin Hu and Chunxia Xiao. *Geometrically based linear iterative clustering for quantitative feature correspondence.* **Computer Graphics Forum (CGF), 2016, 35(7): 1-10. (Proceedings of Pacific Graphics 2016)**

- **Qingan Yan**, Zhan Xu and Chunxia Xiao. *Fast feature-oriented visual connection for large image collections.* **Computer Graphics Forum (CGF), 2014, 33(7): 339-348. (Proceedings of Pacific Graphics 2014)**

- Yadong Wu **Qingan Yan**, Jie Fu, Hongli Deng and Lili Song. *Vision based multi-touch system used in visualization.* **IEEE Pacific Visualization Symposium (PacificVis), 2011. (Poster)**

## Patents

- Yadong Wu, **Qingan Yan**, Zhiqin Liu. *Optical multi-touch contact detection based on visual attention model (in Chinese).* **Patent Number: CN102855025B, granted, June/17/2015**.

## Selected Projects

- **Multi-modal Sensing based Outdoor Structures Reconstruction and Editing**     Jan 2016 – Jul 2017

  Description: *Developing innovative approaches for modeling outdoor architectural structures combining multi-modal sensor data, such as Internet imagery, aerial photography and depth cameras. We also explore deep learning methods to transfer the style of different architectures.*

- **Editing and Storytelling in Unstructured Video Collections**     Jan 2015 – Jul 2017

  Description: *Collected a new dataset of faces and outdoor scenes. We use this data to train a CNN to predict the aging of human faces and the temporal change of natural scenes. We also explore the potentiality of other image analytics in deep learning.*

- **Crowdsourced 3D Streetscape Reconstruction and Augmentation**     Jan 2013 – Dec 2016

  Description: *Built an unstructured imagery reconstruction framework that addresses several relevant and challenging problems existing in recent structure from motion modeling techniques, such as the matching of image collections, desification of feature correspondences and disambiguation of duplicate scenes.*

- **Vision based Finger-touch Interaction**     Sep 2010 – May 2012

  Description: *Developed a vision based multi-touch system which requires lasers to be the light source and utilizes a camera to detect bright touching points. We also designed a remote finger-control system that combines Kinect and Internet of Things*

- **Digital Image Super-resolution**     Oct 2009 – Oct 2010

  Description: *Developed a novel algorithm which allows rendering more vivid frames efficiently on television chip.*

## Honors and Awards

- The Second Class Graduate Academic Innovation Award of Wuhan University, 2017.
- Travel Grant Award from CVPR Doctoral Consortium, 2017.
- Excellent Graduate Award of Southwest University of Science and Technology, 2012.
- The First Class Scholarship of Jiangsu Yangshan, 2011.
- Outstanding Student Award of Southwest University of Science and Technology, 2010-2011.
- The Second Class Outstanding Undergraduate Thesis Award of Hubei Province, 2008.
- Excellent Graduate Award of Hubei University for Nationalities, 2008.

## Technical Skills

Programming Languages:    *C/C++, Matlab, Python*
Development Libraries:    *OpenGL, OpenCV, QT, OpenMPI, Caffe, Tensorflow, PCL, CUDA, unity, D3.js*
Other Tools:    *LaTeX, Ubuntu, Git, Kinect, Orbbec*