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# Yong Wang

## Education

- 2014  
2018 **Ph.D in Computer Science**, *Department of Computer Science and Engineering, The Hong Kong University of Science and Technology (HKUST)*, Hong Kong.
  - Supervisor: Prof. Huamin Qu.
  - Research Interest: **Visual Analytics of Big Data, Graph Mining** and Image Processing.
- 2011  
2014 **Master Degree of Pattern Recognition & Intelligent System**, *School of Automation, Huazhong University of Sci. & Tech. (HUST)*, Wuhan, China.
- 2007  
2011 **Bachelor Degree of Automation**, *School of Aerospace, Harbin Institute of Technology (HIT)*, Harbin, China.

## Research/Working Experience

- 2018  
2019 **Post-doctoral Fellow**, *Department of Computer Science and Engineering, HKUST*, Hong Kong, China.
- 2016 **Research Intern**, *Graph Computing Group, IBM T. J. Watson Research Center*, New York, USA.
- 2014 **Research Intern**, *Vision Group, Dajiang Innovation (DJI)*, Shenzhen, China.

## Projects

- 2019 **An Open Learning Design, Data Analytics and Visualization Framework for E-Learning**, *Team Project*.
  - Lead the team to develop open-source analytical and visualization methods for K-12 resource-based e-learning in mathematics and computational thinking
  - Coordinate the collaboration between HKUST team and MIT and HKU teams (url: E-learning project page)
  - Developing tools / languages: Javascript, Python, D3, Vuejs and MongoDB
- 2017  
2018 **Visual Analysis for Face Emotion of Videos**, *Team Project*.
  - Built a online system for collecting, labeling and analyzing face emotion of videos, e.g., kindergarten videos.
  - Developing tools / languages: Javascript, Python, Vuejs, D3, TensorFlow and MongoDB
- 2016 **Visualizing Research Impact Through Citation Data**, *Research Project*.
  - Proposed a novel method for visualizing research impact.
  - Developing tools / languages: Javascript, Python, AngularJS, D3 and MongoDB
- 2015 **Visual Exploration of Coauthor Relationship**, *Team Project*.
  - Explored the HKUST publication dataset and visualized the co-author network of each HKUST professor.
  - Developing tools / languages: Javascript, Python, AngularJS, D3 and MongoDB

2015

**Ambiguity Analysis in Graph Visualization Layouts**, *Research Project*.

- Systematically analyzed the possible ambiguities in graph layouts and developed a prototype system to visualize it (published in infoVis 2015).
- Developing tools / languages: Javascript, Python, AngularJS, D3, three.js and MongoDB

2014

**Visualization for PQE-Defense log data of HKUST CSE department**, *Independent Project*.

- Visualized the PQE-Defense log data of HKUST CSE department in the past 16 years (url: pqeDefenseVis).
- Developing tools / languages: Javascript, Python, AngularJS, D3 and MySQL

2013

**Leucocyte Segmentation and Classification**, *Research Project*.

- Built a framework for leucocyte location and segmentation, and designed both a fast auto-focus algorithm and an improved segmentation method using Support Vector Machine.
- Developing tools / languages: C/C++, openCV

## Publications and Patents

[1] Meng Xia, Mingfei Sun, Huan Wei, Qing Chen, **Yong Wang**, Lei Shi, Huamin Qu and Xiaojuan Ma. PeerLens: Peer-inspired Interactive Learning PathPlanning in Online Question Pool. *The SIGCHI Conference on Human Factors in Computing Systems (CHI 2019)*, 2019. Accepted.

[2] Hammad Haleem, **Yong Wang**, Abishek Puri, Sahil Wadhwa and Huamin Qu. Evaluating the Readability of Force Directed Graph Layouts: A Deep Learning Approach. *IEEE Computer Graphics and Applications (Special Issue on Visual Computing with Deep Learning)*, 2018. Accepted.

[3] **Yong Wang**, Hammad Haleem, Conglei Shi, Yanhong Wu, Xun Zhao, Siwei Fu and Huamin Qu. Towards Easy Comparison of Local Businesses Using Online Reviews. *Computer Graphics Forum (Proceedings of EuroVis 2018)*. Accepted.

[4] **Yong Wang**, Conglei Shi, Liangyue Li, Hanghang Tong and Huamin Qu. Visualizing Research Impact Through Citation Data. *ACM Transactions on Interactive Intelligent Systems (TiiS)*, 2018. In press.

[5] Siwei Fu, **Yong Wang**, Yi Yang, Qingqing Bi, Fangzhou Guo and Huamin Qu. VisForum: A Visual Analysis System for Exploring User Groups in Online Forums. *ACM Transactions on Interactive Intelligent Systems (TiiS)*, 2018. In press.

[6] Xin Zheng, **Yong Wang**, Guoyou Wang and Jianguo Liu. Fast and Robust Segmentation of White Blood Cell Images by Self-supervised Learning. *Micron*, 107:55-71, 2018.

[7] **Yong Wang**, Daniel Archambault, Carlos E. Scheidegger and Huamin Qu. A Vector Field Design Approach to Animated Transitions. *IEEE Transactions on Visualization and Computer Graphics*, 2017. In press.

[8] Xun Zhao, Yanhong Wu, Weiwei Cui, Xinnan Du, Yuan Chen, **Yong Wang**, Dik Lun Lee and Huamin Qu. SkyLens: Visual Analysis of Skyline on Multi-dimensional Data. *IEEE Transactions on Visualization and Computer Graphics (VAST 2017)*. 24(1):246-255, 2018.

[9] Liangyue Li, Hanghang Tong, **Yong Wang**, Conglei Shi, Nan Cao and Norbou Buchler. Is the Whole Greater Than the Sum of Its Parts? In *Proceedings of the 23rd ACM SIGKDD Conference on Knowledge Discovery and Data Mining (KDD)*. Halifax, Canada, August 2017.

[10] Chun-Fu Richard Chen, Marco Pistoia, Conglei Shi, Paolo Girolami, Joseph W. Ligman, and **Yong Wang**. UI X-Ray: Interactive Mobile UI Testing Based on Computer Vision. In *Proceedings of the 22nd International Conference on Intelligent User Interfaces (IUI)*. Limassol, Cyprus, March 2017 (**Best Paper Award**).

[11] **Yong Wang**, Qiaomu Shen, Daniel Archambault, Zhiguang Zhou, Min Zhu, Sixiao Yang and Huamin Qu. AmbiguityVis: Visualization of Ambiguity in Graph Layouts. *IEEE Transactions on Visualization and Computer Graphics (InfoVis 2015)*, 22(1):359–368, 2016.

[12] Xin Zheng, **Yong Wang**, Guoyou Wang and Zhong Chen. A Novel Algorithm Based on Visual Saliency Attention for Localization and Segmentation in Rapidly-Stained Leukocyte Images. *Micron*, 56:17-28, 2014.

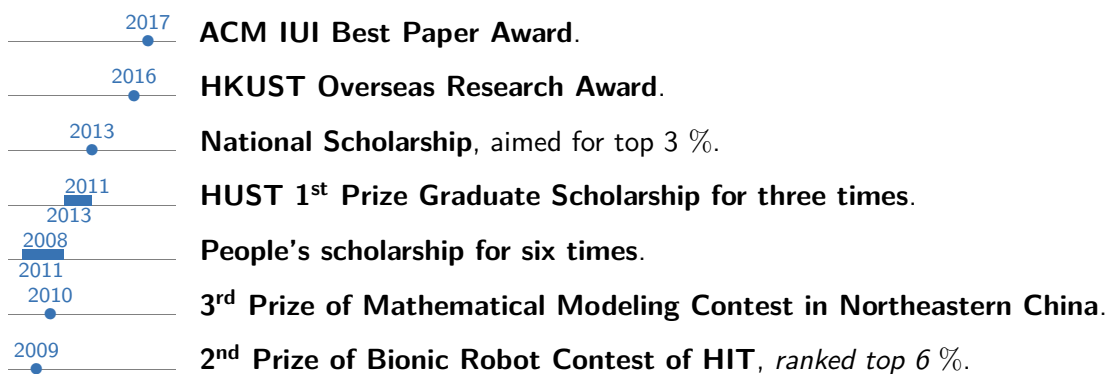
[13] Ran Wang, Guoyou Wang, Zhong Chen, Zhigang Zeng and **Yong Wang**. A palm vein identification system based on Gabor wavelet features. *Neural Computing and Applications*, 24(1): 161-168, 2014.

[14] **Yong Wang**, Guoyou Wang, Ran Wang, Yuanchun Xia and Zhong Chen. A Novel and Robust Algorithm for License Plate Location Using Perceptual Salient Features. In *Proceedings of 2013 International conference on Advances in Industrial Control, Electronics and Computer Engineering*. Kinston, Canada, May 2013.

[15] Xin Zheng, Guoyou Wang, **Yong Wang**. White Blood Cell Segmentation Using Expectation-Maximization and Automatic Support Vector Machine Learning. *Journal of Data Acquisition and Processing (Chinese)*, 2013, 28(5): 614-619.

Patents [16] Guoyou Wang, **Yong Wang**, Xin Zheng and Ran Wang. A Precise Segmentation Method and System Based on SVM for White Blood Cell Images. *Chinese Patent: CN103473739 A*, 2013-12-25.

## Awards and Honors



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## Teaching Experience

2015  
2016

**Teaching Assistant**, *Comp2012: Object-Oriented Programming and Data Structures*, HKUST.

2015

**Teaching Assistant**, *Comp1022p: Introduction to Computing with Java*, HKUST.

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## Professional Services

- Reviewer IEEE VIS (InfoVis, VAST and SciVis) Conference, 2016, 2017, 2018  
ACM IUI, 2019  
The Thirty-First AAAI Conference on Artificial Intelligence (AAAI), 2017  
The ACM CHI Conference (CHI), 2017, 2019  
IEEE Big Data, 2017  
IEEE Pacific Visualization (PacificVis) Symposium, 2015, 2017, 2018, 2019  
IEEE Transaction on Visualization and Computer Graphics (TVCG), 2017  
IEEE Eurographics/VGTC Symposium on Visualization (EuroVis), 2016  
The 3rd China Visualization and Visual Analytics Conference (ChinaVis), 2016  
ACM Transactions on Interactive Intelligent Systems (TiiS), 2017  
Micron, 2014
- Volunteer IEEE VIS Conference, Chicago, USA, 2015

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## Skills

- Programming Proficient in Javascript, C/C++, Python, HTML, PLC; Familiar with Matlab, JAVA
- Tools D3, MongoDB, MySQL, PyTorch, TensorFlow, OpenCV, AngularJS, Three.js, Vuejs,  $\LaTeX$
- Languages Chinese Mandarin (native), English (professional working proficiency)