

Yong Wang

A Data Visualization Researcher

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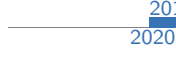
Education

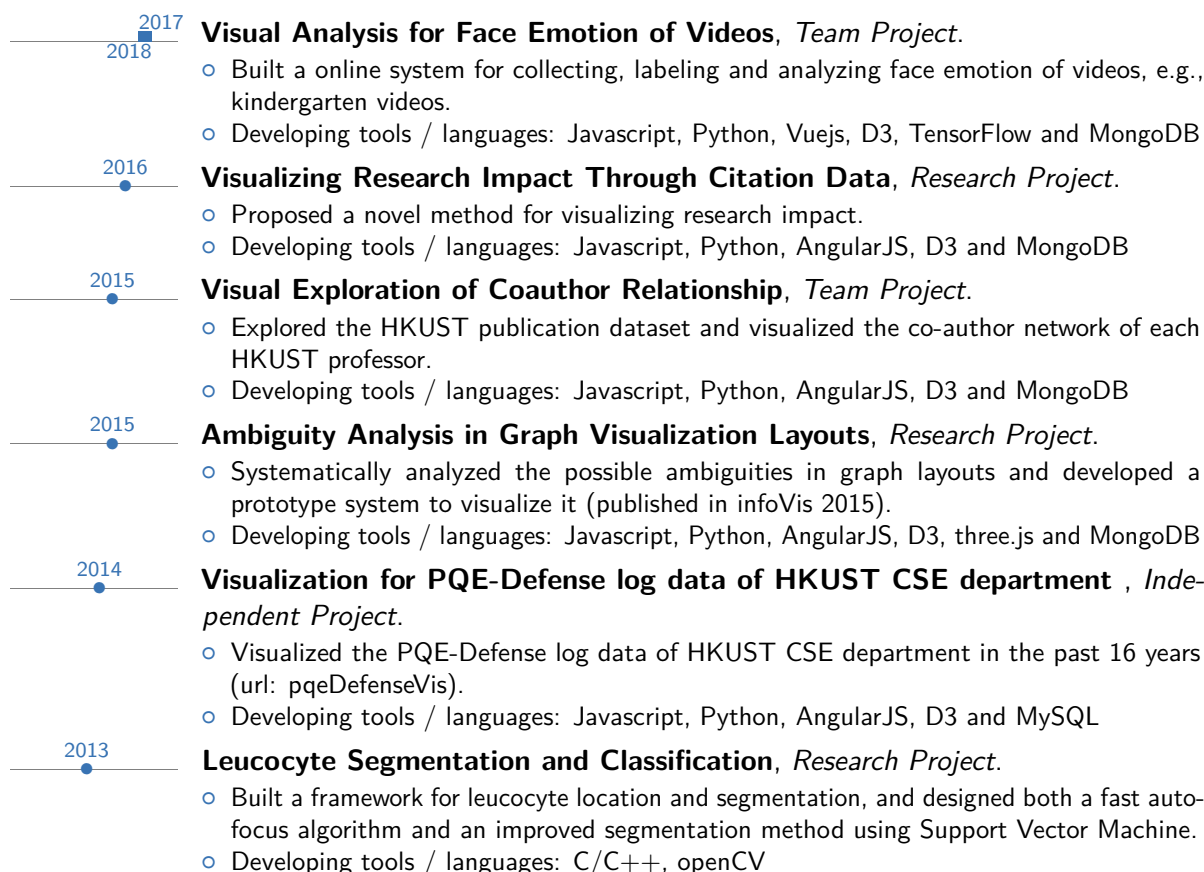
-  **Ph.D in Computer Science**, *Department of Computer Science and Engineering, The Hong Kong University of Science and Technology (HKUST)*, Hong Kong.
 - Supervisor: Prof. Huamin Qu.
 - Research Interest: **Visual Analytics of Big Data, Graph Mining** and Image Processing.
-  **Master Degree of Pattern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

Research/Working Experience

-  **Assistant Professor**, *School of Information Systems, Singapore Management University (SMU)*, Singapore.
-  **Post-doctoral Fellow**, *Department of Computer Science and Engineering, HKUST, Hong Kong, China.*
-  **Visiting Research Scholar**, *Graph Computing Group, IBM T. J. Watson Research Center, New York, USA.*
-  **Research Intern**, *Vision Group, Dajiang Innovation (DJI), Shenzhen, China.*

Projects

-  **AI-powered Visual Analytics Solutions for Communication and Presentation Coaching**, *Team Project.*
 - Lead the team to develop AI-based visual analytics techniques and visualization system to help both coaches and public speaking trainees to conduct better presentation training. The information of audio, text, gesture and posture of the presentations is quantitatively analyzed to guide efficient presentation training.
 - Coordinate the collaboration between HKUST team and our industry collaborator.
 - Developing tools / languages: Javascript, Python, D3, Vuejs, PyTorch and MongoDB
-  **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



Publications and Patents

* Corresponding author

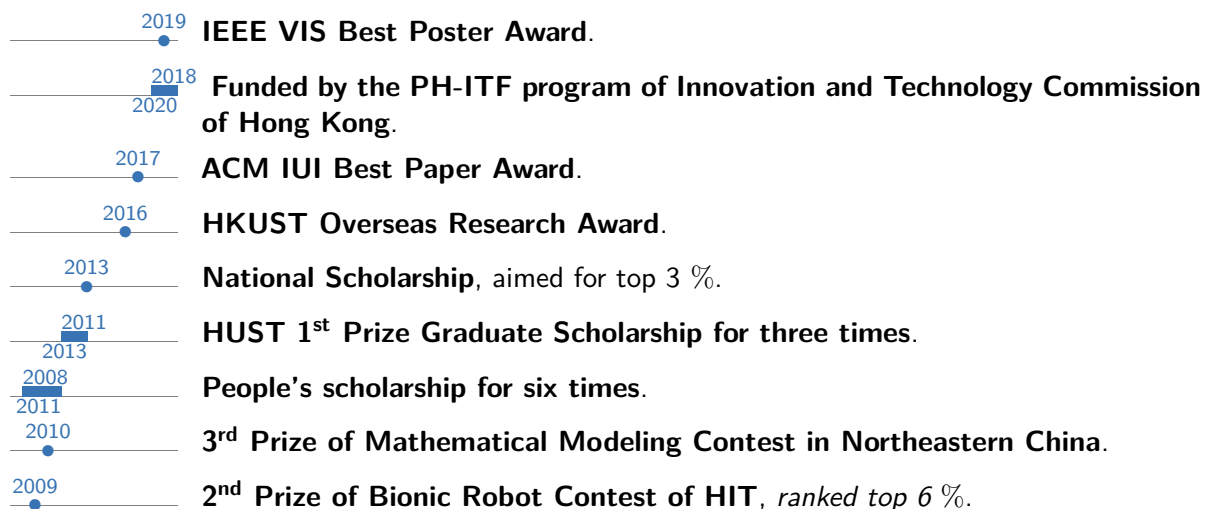
- Papers
- [1] Haotian Li, Huan Wei, **Yong Wang***, Yangqiu Song and Huamin Qu. Peer-inspired Student Performance Prediction in InteractiveOnline Question Pools with Graph Neural Network. *Proceedings of the 29th ACM International Conference on Information and Knowledge Management (CIKM2020)*, 2020.
 - [2] Meng Xia, Reshika P. Velumani, **Yong Wang**, Huamin Qu and Xiaojuan Ma. QLens: Visual Analytics of Multi-step Problem-solving Behaviors for Improving Question Design. *IEEE Transactions on Visualization and Computer Graphics*. To Appear.
 - [3] Yating Lin, Kamkwai Wong, **Yong Wang**, Rong Zhang, Bo Dong, Huamin Qu and Qinghua Zheng. TaxThemis: Interactive Mining and Exploration of Suspicious Tax Evasion Group. *IEEE Transactions on Visualization and Computer Graphics*. To Appear.
 - [4] Ka Wing Tsang, Haotian Li, Fuk Ming Lam, Yifan Mu, **Yong Wang*** and Huamin Qu. TradAO: A Visual Analytics System for Trading Algorithm Optimization. *Proceedings of IEEE VIS 2020*, 2020.
 - [5] Qianwen Wang, Zhenghua Xu, Zhutian Chen, **Yong Wang**, Shixia Liu and Huamin Qu. Visual Analysis of Discrimination in Machine Learning. *IEEE Transactions on Visualization and Computer Graphics*, 2020.

- [6] Abishek Puri, Bon Kyung Ku, **Yong Wang**, Huamin Qu. RankBooster: Visual Analysis of Ranking Predictions. *In Proceedings of EuroVis 2020 (short paper)*, 2020.
- [7] **Yong Wang**, Zhihua Jin, Qianwen Wang, Weiwei Cui, Tengfei Ma and Huamin Qu. DeepDrawing: A Deep Learning Approach to Graph Drawing. *IEEE Transactions on Visualization and Computer Graphics (Proceedings of InfoVis 2019)*, 26(1):676-686, 2019.
- [8] **Yong Wang**, Daniel Archambault, Hammad Haleem, Torsten Moeller, Yanhong Wu, Huamin Qu. Nonuniform Timeslicing of Dynamic Graphs Based on Visual Complexity. *Proceedings of InfoVis 2019 (Short Paper)*. 2019.
- [9] Xingbo Wang, Haipeng Zeng, **Yong Wang***, Aoyu Wu, Zhida Sun, Xiaojuan Ma and Huamin Qu. VoiceCoach: Interactive Evidence-based Training for Voice Modulation Skills in Public Speaking. Accepted by *The SIGCHI Conference on Human Factors in Computing Systems (CHI 2020)*. To Appear.
- [10] Dong Sun, Zezheng Feng, Yuanzhe Chen, **Yong Wang**, Jia Zeng, Mingxuan Yuan, Ting-Chuen Pong and Huamin Qu. DFSeer: A Visual Analytics Approach to Facilitate Model Selection for Demand Forecasting. Accepted by *The SIGCHI Conference on Human Factors in Computing Systems (CHI 2020)*. To Appear.
- [11] Haipeng Zeng, Xinhuan Shu, Yanbang Wang, **Yong Wang**, Liguozhang, Ting-Chuen Pong and Huamin Qu. EmotionCues: Emotion-Oriented Visual Summarization of Classroom Videos. *IEEE Transactions on Visualization and Computer Graphics*. 2020.
- [12] Huan Wei, Haotian Li, Meng Xia, **Yong Wang*** and Huamin Qu. Predicting Student Performance in Interactive Online Question Pools Using Mouse Interaction Features. *In Proceedings of the 10th International Learning Analytics & Knowledge Conference (LAK20)*. To Appear.
- [13] Dong Sun, Renfei Huang, Yuanzhe Chen, **Yong Wang***, Jia Zeng, Mingxuan Yuan, Ting-Chuen Pong and Huamin Qu. PlanningVis: A Visual Analytics Approach to Production Planning in Smart Factories. *IEEE Transactions on Visualization and Computer Graphics (Proceedings of VAST 2019)*, 26(1):579-589, 2019.
- [14] Haipeng Zeng, Xingbo Wang, Aoyu Wu, **Yong Wang***, Quan Li, Alex Endert and Huamin Qu. EmoCo: Visual Analysis of Emotion Coherence in Presentation Videos. *IEEE Transactions on Visualization and Computer Graphics (Proceedings of VAST 2019)*, 26(1):927-937, 2019.
- [15] Zhutian Chen, Yun Wang, Qianwen Wang, **Yong Wang** and Huamin Qu. Towards Automated Infographic Design: Deep Learning-based Auto-Generation of Extensible Timeline. *IEEE Transactions on Visualization and Computer Graphics (Proceedings of InfoVis 2019)*, 26(1):917-926, 2019.
- [16] 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)*. Glasgow, Scotland UK, May 2019.

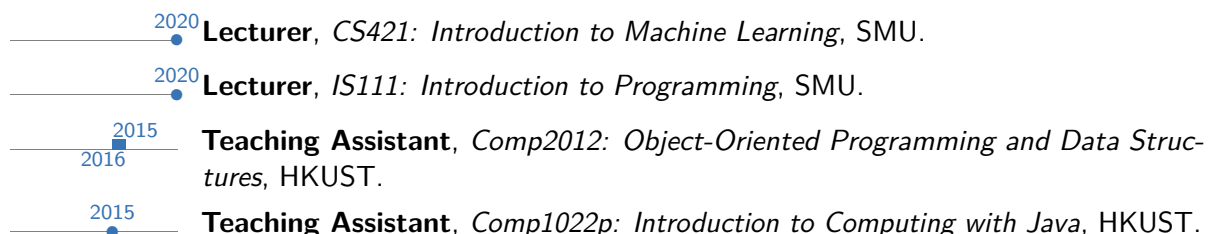
- [17] Hammad Haleem, **Yong Wang**, Abishek Puri, Sahil Wadhwa and Huamin Qu. Evaluating the Readability of Force Directed Graph Layouts: A Deep Learning Approach. *IEEE Computer Graphics and Applications (Special Issue on Visual Computing with Deep Learning)*, 39(4):40-53, 2019.
- [18] **Yong Wang**, 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)*, 37(3):63-74, 2018.
- [19] **Yong Wang**, Conglei Shi, Liangyue Li, Hanghang Tong and Huamin Qu. Visualizing Research Impact Through Citation Data. *ACM Transactions on Interactive Intelligent Systems (TiiS)*, 8(1): Paper 5, 2018.
- [20] 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)*, 8(1): Paper 3, 2018.
- [21] 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.
- [22] **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*, 24(9):2487-2500, 2018. **(Invited to SIGGRAPH 2019 as 1 of 4 top TVCG papers)**
- [23] 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.
- [24] Liangyue Li, Hanghang Tong, **Yong Wang**, Conglei Shi, Nan Cao and Norboub 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.
- [25] 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. **(IUI 2017 Best Paper Award)**
- [26] **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.
- [27] 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.

- [28] 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.
- [29] **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.
- [30] 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 [31] 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.
- Posters [32] Meng Xia, Huan Wei, Min Xu, Leo Yu Ho Lo, **Yong Wang**, Rong Zhang, Huamin Qu. Visual Analytics of Student Learning Behaviors on K-12 Mathematics E-learning Platforms. *Proceedings of IEEE VIS 2019 Poster*, 2019. (**IEEE VIS 2019 Best Poster Award**)

Awards and Honors



Teaching Experience



Professional Services

PC Member	ICPADS 2018, MLVIS 2019, MLVIS 2020, ChinaVis 2020, IUI 2020, IUI 2021
Reviewer	IEEE VIS (InfoVis, VAST and SciVis) Conference, 2016, 2017, 2018, 2019, 2020 IUI 2019, 2020, 2021 ChinaVis 2016, 2017, 2018, 2019, 2020 The Thirty-First AAAI Conference on Artificial Intelligence (AAAI), 2017 The ACM CHI Conference (CHI), 2017, 2019, 2020 AAAI 2017 IEEE Big Data, 2017 IEEE Pacific Visualization (PacificVis) Symposium, 2015, 2017, 2018, 2019 IEEE Transaction on Visualization and Computer Graphics (TVCG), 2017, 2020 IEEE Eurographics/VGTC Symposium on Visualization (EuroVis), 2016 ACM Transactions on Interactive Intelligent Systems (TiiS), 2017, 2020 Micron, 2014
Volunteer	IEEE VIS Conference, Chicago, USA, 2015

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)