

# Qianwen Wang

DATA VISUALIZATION MEETS ML

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## Education

### Hong Kong University of Science & Technology

PhD Candidate, Electronic and Computer Engineering

Hong Kong, China

Sep 2015-

### University of Oxford

Research Visiting Student, Department of Engineering Science

Oxford, UK

Sep 2019- Dec 2019

### Xi'an Jiao Tong University

BEng., Electronic Engineering, GPA: 92/100

Xi'an, China

Aug 2011-2015

## Interest & Skills

### Interest

Human-Machine Collaboration, Visualization for ML, Narrative Visualization

### Programming

Python, JavaScript, Typescript, Matlab, HTML, css

### Frameworks

React, D3, Flask, WebGL

## Research

### Visual Analysis of Algorithmic Discrimination

HKUST & Tsinghua University

- We aim to design and develop an interactive visualization tool that facilitates a better understanding and analysis of algorithmic discrimination.
- A four-stage pipeline for the discovery of discriminatory predictions.
- A novel set visualization that combines an extended Euler diagram with a matrix-based set visualization.

Dec 2018 -

### Increasing Transparency and Controllability in AutoML

HKUST & MIT

- A multi-granularity visualization is proposed to enable users to monitor the AutoML process, analyze the searched models, and refine the search space in real time.
- <https://github.com/HDI-Project/ATMSeer/>

May 2018 -

### Visual Genealogy of Deep Neural Networks

HKUST & Tsinghua University

- A web-based interactive visualization tool that enables users to understand and compare typical DNN architectures, as well as to explore the evolutionary relationships among them.

Jan 2018 - Nov 2018

### Authoring Narrative Slideshows for Introducing Data Visualization Designs

HKUST & Microsoft Research Asia

- A slideshow authoring tool that assists users in introducing data visualizations to non-experts.
- An approach to hierarchically decompose a visualization design and introduce its compositions progressively.

Jan 2017 - Oct 2017

## Experience

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### Research Intern, Microsoft Research Asia

Jun 2017 - Jan 2018

### Teaching Assistant, HKUST

Feb 2016 - Dec 2018

- Probability and Random Processes
- Signals and Systems

### Paper Reviewer

- IEEE Visual Analytics Science and Technology (VAST), 2018 & 2019
- China Visualization and Visual Analytics Conference (China Vis), 2019
- China Vis Survey Papers, 2019

## Awards

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- **The Award of Excellence, Microsoft Research Asia Internship Program** 2018
- **The Award of Most Feasibility, Microsoft One Week Hackathon** 2017
- **Outstanding Graduates, Xi'an Jiao Tong University** 2015

## Publication List

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- **[C] Qianwen Wang**, Yao Ming, Zhihua Jin, Qiaomu Shen, Dongyu Liu, Micah J. Smith, Kalyan Veeramachaneni, and Huamin Qu. 2019. "ATMSeer: Increasing Transparency and Controllability in Automated Machine Learning". In Proceedings of the 2019 CHI Conference on Human Factors in Computing Systems (CHI '19). ACM, New York, NY, USA, Paper 681, 12 pages
- **[J] Qianwen Wang**, Jun Yuan, Shuxin Chen, Hang Su, Huamin Qu, and Shixia Liu. "Visual Genealogy of Deep Neural Networks." IEEE Transactions on Visualization and Computer Graphics doi: 10.1109/TVCG.2019.2921323
- **[C, J] Qianwen Wang**, Zhen Li, Siwei Fu, Weiwei Cui, and Huamin Qu. "Narvis: Authoring Narrative Slideshows for Introducing Data Visualization Designs." IEEE Transactions on Visualization and Computer Graphics 25, no. 1 (2018): 779-788
- **[J] Chen, Zhutian, Yijia Su, Yifang Wang, Qianwen Wang**, Huamin Qu, and Yingcai Wu, "MARVisT: Authoring Glyph-based Visualization in Mobile Augmented Reality," in IEEE Transactions on Visualization and Computer Graphics. doi: 10.1109/TVCG.2019.2892415
- **[C, J] Yong Wang, Zhihua Jin, Qianwen Wang**, Weiwei Cui, Tengfei Ma, Huamin Qu, "DeepDrawing: A Deep Learning Approach to Graph Drawing", accepted with minor revision by IEEE InfoVIS 2019
- **[C, J] Zhutian Chen, Yun Wang, Qianwen Wang**, Yong Wang, Huamin Qu, "Towards Automated Infographic Design: Deep Learning-based Auto-Generation of Extensible Timeline", accepted with minor revision by IEEE InfoVIS 2019

## Media Coverage

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- **MIT News** Cracking open the black box of automated machine learning [↗](#)
- **DeepTech** ATMSeer 拯救工程师发际线 [↗](#)