Qianwen Wang

DATA VISUALIZATION MEETS ML

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Education

Hong Kong University of Science & Technology — Hong Kong, China
PhD Candidate, Electronic and Computer Engineering — *Sep 2015-*

University of Oxford — Oxford, UK
Research Visiting Student, Department of Engineering Science — *Sep 2019- Dec 2019*

Xi'an Jiao Tong University — Xi'an, China
BEng., Electronic Engineering, GPA: 92/100 — *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 & Tshinghua University

Dec 2018 -

- We aim to design and develope 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.

Increasing Transparency and Controllability in AutoML

HKUST & MIT

May 2018 -

- 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/`

Visual Genealogy of Deep Neural Networks

HKUST & Tshinghua University

Jan 2018 - Nov 2018

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

Authoring Narrative Slideshows for Introducing Data Visualization Designs

HKUST & Microsoft Research Asia

Jan 2018 - Nov 2018

- 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.

Experience

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

- 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

- **[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

- MIT News Cracking open the black box of automated machine learning
- DeepTech ATMSeer 拯救工程师发际线