

Shaolun RUAN

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Research Area

To enhance the human ability to read and understand big data, I develop novel graphical representations that enable a more effective and smoother analysis using machines. My work focuses on improving the accessibility of complex and abstract domain concepts, leveraging the methods from **Data Visualization**, **Human-computer Interaction**, and **Quantum Computing**. Our authoring tools and designs are appreciated and used by data enthusiasts, developers, and practitioners from different domains.

Education

Ph.D. candidate in Singapore Management University

School of Computing and Information System

Advised by Prof. Yong Wang, Member of VIDA Lab

Singapore

2021.01 - present

B.S. in University of Electronic Science and Technology of China

School of Computing Science and Engineering

Member of Big Data Research Center

Chengdu, China

2015.09 - 2019.07

Notable Awards

SMU Presidential Doctoral Fellowship

Awarded for PhD students who have consistently shown exceptional research achievements selected from the top 10% of PhD students.

2023

UESTC SCSE Outstanding Student Award

Awarded to students with an outstanding performance during the bachelor period.

2019

Publications

Shaolun Ruan, Qiang Guan, Paul Griffin, Ying Mao, Yong Wang.

QuantumEyes: Towards Better Interpretability of Quantum Circuits.

IEEE Transactions on Visualization & Computer Graphics (2023): 1-13. <https://doi.org/10.1109/TVCG.2023.3332999>

Ruan Shaolun, Wang Yong, Jiang Weiwen, Mao Ying, Guan Qiang.

VACSEN: A Visualization Approach for Noise Awareness in Quantum Computing.

IEEE Transactions on Visualization & Computer Graphics 29.01 (2023): 462-472. <https://doi.org/10.1109/TVCG.2022.3209455>

Ruan Shaolun, Yuan Ribo, Guan Qiang, Lin Yanna, Mao Ying, Jiang Weiwen, Wang Zhepeng, Xu Wei, Wang Yong.

VENUS: A Geometrical Representation for Quantum State Visualization.

Eurographics EuroVis 2023. 42-Issue 3. <https://doi.org/10.1111/cgf.14827>

Ruan Shaolun, Wang Yong, and Guan Qiang.

Intercept Graph: An Interactive Radial Visualization for Comparison of State Changes.

2021 IEEE Visualization Conference (VIS). IEEE, 2021: 111-115. <https://doi.org/10.1109/VIS49827.2021.9623307>

Ruan Shaolun, Wang Yong, Jiang Hailong, Xu Weijia, Guan Qiang.

BatchLens: A Visualization Approach for Analyzing Batch Jobs in Cloud Systems.

2022 Design, Automation & Test in Europe Conference & Exhibition (DATE). IEEE, 2022: 108-111. <https://doi.org/10.23919/DATE54111.2022.9774668>

Hailong Jiang*, **Shaolun Ruan***, Bo Fang, Yong Wang, Qiang Guan.
Visilience: An Interactive Visualization Framework for Resilience Analysis using Control-Flow Graph.
Proceedings of IEEE PRDC 2023. To Appear.

Positions

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|---|---|
| Kent State University Research Assistant, member of Guan's Lab | Ohio, U.S. 2019.07 - 2021.09 |
| Chengdu Guangchen Technology Co., Ltd. Intern and Developer, member of front-end development team | Chengdu, China. 2016.04 - 06, 2017.01 - 03 |
| University of Melbourne Visiting student | Melbourne, Australia 2016.07 - 2016.08 |
| University of Auckland Visiting student, studying in the Academic Language Center | Auckland, New Zealand 2016.08 |

Invited Talks

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| Invited talk on VIS meets Quantum Computing, HKUST Enhance the Transparency of Quantum Computing using Visualization. | 2023.11 |
| VAST Panel, HKUST Invited Speaker in the VisLab HAI Seminar. | 2023.12 |