Haotian **Li**

Ph.D Candidate, VisLab HKUST

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Education

Present September 2020	**Ph.D Student, Hong Kong University of Science and Technology, Hong Kong, China** › Research interest : Data Visualization, Visual Analytics, Data Mining, E-learning › Supervised by Prof. Huamin Qu, Department of Computer Science and Engineering, HKUST
June 2019 September 2015	**B.Eng (First Class Honors), Hong Kong University of Science and Technology, Hong Kong, China** › Major in Computer Engineering › Minors in Business and Big Data Technology
Spring 2018	**Exchange Student, University of British Columbia, Vancouver, Canada**
July 2017	**Exchange Student, Peking University, Beijing, China**

Experience

September 2021 March 2021	**Visiting Research Student, Singapore Management University, Singapore** › Research on visualization recommendation and retrieval › Participate in research projects on crowdfunding and sea freight › Supervised by Prof. Yong Wang, School of Computing and Information Systems, SMU
August 2020 August 2019	**Research Assistant, Hong Kong University of Science and Technology, Hong Kong, China** › Research on advanced algorithms in analysis of students' performance on E-Learning platforms › Supervised by Prof. Huamin Qu, Department of Computer Science and Engineering, HKUST
August 2019 June 2019	**Application Developer, Wealth Management Cube Limited, Hong Kong, China** › Design and develop an internal production system › Develop the web-based platform offered to the wealth management industry

Project

Anti-Cheating Application for Online Examinations 2021-present
- Aim to build a commercialized anti-cheating system based on the paper "A Visual Analytics Approach to Facilitate the Proctoring of Online Exams" with a HKD 500,000 fund from HKUST
- Design and implement the backend of the system with AWS services

Jockey Club Self-Directed Learning in STEM 2020-2021
- Design and build the prototype of the visualizations for learning analytics in the collaboration with HKU CITE
- Create and manage the testing environment of the learning analytics system

Personalized Online Learning Path Recommendation 2020-2021
- Design the workflow of personalized learning path recommendation with Trumptech Education
- Deploy the student performance prediction model based on the paper "Peer-inspired Student Performance Prediction in Interactive Online Question Pools with Graph Neural Network"

An Open Learning Design, Data Analytics and Visualization Framework for E-Learning 2019-2020
- Design and implement interactive visual analytics systems for analyzing students' mouse movements and head poses
- Build state-of-the-art student performance prediction methods with students' interaction data and graph neural network

Publication

[12] **Haotian Li**, Yong Wang, Aoyu Wu, Huan Wei, Huamin Qu. 2022. Structure-aware Visualization Retrieval. Accepted to *Proceedings of the 2022 CHI Conference on Human Factors in Computing Systems (CHI '22).*

[11] Aoyu Wu, Wai Tong, **Haotian Li**, Dominik Moritz, Yong Wang, Huamin Qu. 2022. ComputableViz : Mathematical Operators as a Formalism for Visualisation Processing and Analysis. Accepted to *Proceedings of the 2022 CHI Conference on Human Factors in Computing Systems (CHI '22).*

[10] Songheng Zhang, Yong Wang, **Haotian Li**, Wanyu Zhang. 2022. Who Will Support My Project? Interactive Search of Potential Crowdfunding Investors Through inSearch. Accepted to *Extended Abstracts of the 2022 CHI Conference on Human Factors in Computing Systems (CHI '22) (Late-Breaking Work).*

[9] Wai Tong*, **Haotian Li***, Huan Wei*, Liwenhan Xie*, Yanna Lin*, Huamin Qu. 2022. Let Every Seat Be Perfect! A Case Study on Combining BIM and VR for Room Planning. Accepted to *Proceedings of the 2022 IEEE Conference on Virtual Reality and 3D User Interfaces Abstracts and Workshops (VR '22) (Poster).* (* : equal contribution)

[8] **Haotian Li**, Yong Wang, Songheng Zhang, Yangqiu Song, Huamin Qu. 2021. KG4Vis : A Knowledge Graph-Based Approach for Visualization Recommendation. *IEEE Transactions on Visualization and Computer Graphics (Proceedings of VIS '21).* Best Paper Honorable Mention.

[7] **Haotian Li**, Min Xu, Yong Wang, Huan Wei, and Huamin Qu. 2021. A Visual Analytics Approach to Facilitate the Proctoring of Online Exams. In *Proceedings of the 2021 CHI Conference on Human Factors in Computing Systems (CHI '21).*

[6] Lin-Ping Yuan, Wei Zeng, Siwei Fu, Zhiliang Zeng, **Haotian Li**, Chi-Wing Fu, Huamin Qu. 2021. Deep Colormap Extraction from Visualizations. *IEEE Transactions on Visualization and Computer Graphics.*

[5] **Haotian Li**, Huan Wei, Yong Wang, Yangqiu Song, Huamin Qu. 2020. Peer-inspired Student Performance Prediction in Interactive Online Question Pools with Graph Neural Network. In *Proceedings of the 29th ACM International Conference on Information and Knowledge Management (CIKM '20).*

[4] Zezheng Feng, **Haotian Li**, Wei Zeng, Shuang-Hua Yang, Huamin Qu. 2020. Topology Density Map for Urban Data Visualization and Analysis. *IEEE Transactions on Visualization and Computer Graphics (Proceedings of VAST '20).*

[3] Huan Wei, **Haotian Li**, Meng Xia, Yong Wang, Huamin Qu. 2020. Predicting Student Performance in Interactive Online Question Pools Using Mouse Interaction Features. In *Proceedings of the 10th International Conference on Learning Analytics & Knowledge (LAK '20).*

[2] Ka Wing Tsang, **Haotian Li**, Fuk Ming Lam, Yifan Mu, Yong Wang, Huamin Qu. 2020. TradAO : A Visual Analytics System for Trading Algorithm Optimization. In *Proceedings of the 2020 IEEE Visualization Conference (VIS '20) (Short Paper).*

[1] Qiao Gu, Hang Yin, Lian Chen, **Haotian Li**, Chengzhong Liu, Xuanwu Yue, Huamin Qu. PreserVis, a Visual Analytic System for Traffic and Pollution Patterns - Multi-Challenge Award for Compelling Synthesis of Information. 2017. In *Proceedings of the 2017 IEEE Conference on Visual Analytics Science and Technology (VAST '17) (VAST Challenge).*

Teaching

Fall 2021	**Teaching Assistant**, COMP 2711 - Discrete Mathematical Tools for Computer Science, HKUST
Spring 2021	**Teaching Assistant**, COMP 6311E - High Dimensional Data Management and Analytics, HKUST
Spring 2021	**Teaching Assistant**, MSBD 6000J - Spatial and Multimedia Databases, HKUST

Award

2021-2022	Postgraduate Studentship, HKUST
2021	Best Paper Honorable Mention, IEEE VIS
2020-2021	Postgraduate Studentship, HKUST
2020	Student Travel Grant, ACM SIGIR
2019	Young Talent Award, BOCHK Hackathon
2018-2019	University's Scholarship Scheme for Continuing Undergraduate Students, HKUST
2018-2019	Dean's List, HKUST
2017-2018	Overseas Learning Experience Scholarship, HKUST
2017-2018	University's Scholarship Scheme for Continuing Undergraduate Students, HKUST
2017	Multi-Challenge Award, IEEE VAST Challenge
2017	Students' Academic Excellence, HKUST
2016-2017	University's Scholarship Scheme for Continuing Undergraduate Students, HKUST
2015-2016	Dean's List, HKUST
2015-2016	University Scholarship, HKUST
2014	Second Award, National Physics Olympics

Service

2022	Reviewer : ACM CHI
2021	Program Committee Member : CIKM
2021	Reviewer : IEEE VIS, ChinaVis
2021	Student Volunteer : IEEE VIS

Talk

October 2021	KG4Vis : A Knowledge Graph-Based Approach for Visualization Recommendation, IEEE VIS 2021, IEEE VGTC
October 2021	KG4Vis : A Knowledge Graph-Based Approach for Visualization Recommendation, IEEE VIS 2021 Pre-conference, CCF Technical Committee on CAD&CG
June 2021	A Visual Analytics Approach to Facilitate the Proctoring of Online Exams, Best of CHI2021, Mumbai ACM SIGCHI Chapter & IIT Bombay ACM SIGCHI Student Chapter
May 2021	A Visual Analytics Approach to Facilitate the Proctoring of Online Exams, CHI '21, ACM SIGCHI
October 2020	Peer-inspired Student Performance Prediction in Interactive Online Question Pools with Graph Neural Network, CIKM '20, ACM SIGIR & SIGWEB