TONG WAI

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RESEARCH INTEREST

Data Visualization, Augmented Reality, Human Computer Interaction

EDUCATION

The Hong Kong University of Science and Technology, Hong Kong *09/2020 - Present*
Ph.D. candidate in Department of Computer Science and Engineering
Advisors: Prof. Huamin Qu and Prof. Ting Chuen Pong

The Hong Kong University of Science and Technology, Hong Kong *09/2018 - 06/2020*
MPhil student in Department of Computer Science and Engineering (transferred to Ph.D. program)
Advisor: Prof. Huamin Qu

The Hong Kong University of Science and Technology, Hong Kong *09/2014 - 08/2018*
B.Eng. in Department of Computer Science and Engineering

PUBLICATIONS

ComputableViz: Mathematical Operators as a Formalism for Visualization Processing and Analysis
Aoyu Wu, **Wai Tong**, Haotian Li, Dominik Moritz, Yong Wang, and Huamin Qu
ACM Conference on Human Factors in Computing Systems (CHI), 2022

Let Every Seat Be Perfect! A Case Study on Combining BIM and VR for Room Planning
Wai Tong*, Haotian Li*, Huan Wei*, Liwenhan Xie*, Yanna Lin*, and Huamin Qu (*: equal contribution)
IEEE Conference on Virtual Reality and 3D User Interfaces Abstracts and Workshops (VR), 2022

MobileVisFixer: Tailoring Web Visualizations for Mobile Phones Leveraging an Explainable Reinforcement Learning Framework
Aoyu Wu, **Wai Tong**, Tim Dwyer, Bongshin Lee, Petra Isenberg, and Huamin Qu
IEEE Transactions on Visualization and Computer Graphics (TVCG), 2020

Augmenting Static Visualizations with PapARVis Designer
Zhutian Chen, **Wai Tong**, Qianwen Wang, Benjamin Bach, and Huamin Qu
ACM Conference on Human Factors in Computing Systems (CHI), 2020

PROJECTS

VisPIE - Visualize Sustainability *04/2022*
VisPIE aims at promoting sustainability lifestyle using XR, digital twin, and data visualization. We present USTreePlantAR to encourage students to perform green action in the campus. We try to quantify and visualize everyone's affordance for sustainiability through Augmented Reality. With gamificiation, we transform green actions into a positive game loop to promote long lasting sustainability actions. This project won the Deloitte ESG Innovation Award in hackUST 2022.

Immersive Storytelling for HKUST 30th Anniversary *11/2021 - Present*
This project utilizes Augmented Reality (AR) and Data Visualization techniques to introduce the history of HKUST for 30th Anniversary. An AR website is built and augmented in campus for students and visitors to take a "walk along memory lane", where the timeline of important events is visualized along the corridor in the reality. This AR experience allows the audiences to engage to an immersive data story of 30 year history of HKUST.

Pulse of HKUST *09/2018 - Present*
This project promotes a smart campus in HKUST by the combination of IoT device, big data and data visualization. I had developed an interactive visualization system and a mobile web application using Vue.js and d3.js. This project won the Student Innovation Gold Award in HKICT 2019 and a Merit award in the R&D category in APICTA 2019. Moreover, it is also selected as one of the projects in the HKUST Sustainable Smart Campus as a Living Lab.

USThing *12/2017 - 12/2018*
USThing is a mobile app for HKUST community that provide more convenience access to campus information. I had used Kotlin with Android Studio work on the enhancement of the Android app. Moreover, it is also selected as one of the projects in the HKUST Sustainable Smart Campus as a Living Lab.

WORK EXPERIENCES AND INTERNSHIPS

HKUST Entrepreneurship Center *06/2018 - 08/2018*
Developer (Summer Internship)

· Performed backend development for a booking system website using PHP

Mirum Hong Kong *06/2017 - 08/2017*
Developer (Summer Internship)

· Built a content management system for a website using TeamSite and LiveSite.
· Performed backend development of a website using Java

TECHNICAL STRENGTHS

Programming	JavaScript (Vue.js, D3.js, Vega, Node.js, Typescript), C# (Unity3D), Python (Flask, Pandas), Flutter
Operating system	Windows, Linux, macOS