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LI Wenchao

Education

2017 – 2023 **Ph.D.** in Computer Science

The Hong Kong University of Science and Technology

- Advisor: Prof. Huamin Qu
- Research Interests: **Information Visualization** and **Data Interaction**

2014 – 2017 **Master of Engineering** in Computer Science

University of Chinese Academy of Sciences

- Advisor: Prof. Hui Huang
- Thesis: "High-level Understanding of 3D Models Based on Style Analysis"

2010 – 2014 **Bachelor of Engineering** in Computer Science

Sichuan University

- Thesis: "Design and Implementation of Skeleton-based 3D Model Deformation"

Work Experience

08/2022 – 04/2023 **Research Intern**

Data Intelligence Innovation Lab, Huawei Cloud

- Mentor: Dr. Ke Xu
- Leaded the research on leveraging natural language to support the authoring of visual network stories
- Prototype development for supply chain with geospatial network data

04/2022 – 07/2022 **Software Development Intern**

Data Platform, ByteDance

- Deisgned and developed the animation module for data visualization authoring

11/2021 – 04/2022 **Research Intern**

Data, Knowledge & Intelligence Group, Microsoft Research Asia

- Mentor: Dr. Yun Wang & Dr. Haidong Zhang
- Leaded the research on design space of camera movements in geographic data videos and the system development for simplifying the creation process of camera movements

08/2019 – 04/2020 **Research Intern**

Data, Knowledge & Intelligence Group, Microsoft Research Asia

- Mentor: Dr. Yun Wang
- Research on a systematic framework for automatic generation of animated transition between statistical charts

04/2016 – 07/2017 **Research Assistant**

Visual Computing Research Center, Shenzhen University

- Mentor: Prof. Ruizhen Hu & Prof. Hui Huang
- Research on learning and transferring part mobility to new shapes
- Developed a system for locating regions of 3D shapes that define particular styles

12/2013 – 04/2014 **Research Intern**

Shenzhen VisuCA Key Lab, Shenzhen Institutes of Advanced Technology

- Mentor: Prof. Qian Zheng & Prof. Hui Huang
- Engaged in analyzing and enhancing intrinsic symmetry of shapes

Publications

Wenchao Li, Zhan Wang, Yun Wang, Di Weng, Liwenhan Xie, Siming Chen, Haidong Zhang, and Huamin Qu, "GeoCamera: Telling Stories in Geographic Visualizations with Camera Movements". *In Proc. of ACM CHI*, 2023.

Wenchao Li, Sarah Schöttler, James Scott-Brown, Yun Wang, Siming Chen, Huamin Qu, and Benjamin Bach, "NetworkNarratives: Data Tours for Visual Network Exploration and Analysis". *In Proc. of ACM CHI*, 2023.

Wenchao Li, Yun Wang, He Huang, Weiwei Cui, Haidong Zhang, Huamin Qu, and Dongmei Zhang, "AniVis: Generating Animated Transitions Between Statistical Charts with a Tree Model". *arXiv preprint arXiv:2106.14313*, 2021.

Wenchao Li, Yun Wang, Haidong Zhang, and Huamin Qu, "Improving Engagement of Animated Visualization with Visual Foreshadowing". *In Proc. of IEEE VIS Short Papers*, 2020.

Ruizhen Hu, **Wenchao Li**, Oliver van Kaick, Hui Huang, Ariel Shamir, and Hao Zhang, "Learning to Predict Part Mobility from a Single Static Snapshot". *ACM Trans. on Graphics (SIGGRAPH Asia)*, Vol. 36, No. 6, Article 227, 2017.

Ruizhen Hu, **Wenchao Li**, Oliver van Kaick, Hui Huang, Melinos Averkiou, Daniel Cohen-Or, and Hao Zhang, "Co-Locating Style-Defining Elements on 3D Shapes". *ACM Trans. on Graphics*, Vol. 36, No. 4, Article 50a, 2017.

Project Experience

12/2022 – Present **Progressive Visual Network Story Generation**, *Work in progress.*

- Developed an human-machine collaborative system that leverages natural language to support progressive authoring visual network story
- Programming: D3.js, G6, TypeScript, React

01/2022 – 12/2022 **Geographic data video generation with camera movements**, *Research project.*

- Developed an interactive prototype system to simplify the creation process of expressive camera movements for geographic data videos
- Programming: deck.gl, TypeScript, Tailwind CSS, React

12/2020 – 12/2022 **Guided walkthroughs for visual network exploration**, *Research project.*

- Developed an online system that supports semi-automatically generated walkthroughs for network exploration and analysis (networknarratives.github.io)
- Programming: Vistorian, Flowmap.gl, TypeScript, React

08/2019 – 06/2021 **Automatic generation of animated transitions**, *Research project.*

- Developed a systematic approach that automatically generates animated transitions between statistical charts
- Programming: D3.js, TypeScript, Boostrap

06/2018 – 07/2020 **Enhancing animated visualizations with foreshadowing**, *Research project.*

- Designed and evaluated the effectiveness of visual foreshadowing techniques in animated visualization
- Programming: D3.js, JavaScript, Python

09/2016 – 07/2017 **Predicting part mobilities from static snapshots**, *Research project.*

- Designed and computed geometric descriptors, experimented algorithm's parameters, and implemented two applications
- Programming: C++, Qt, OpenGL, MATLAB

09/2015 – 09/2016 **Co-Locating style-defining elements on 3D shapes**, *Research project.*

- Preprocessed the 3D shapes, computed and visualized the local features for training, and conducted two user studies
- Programming: C++, Qt, OpenGL

11/2013 – 05/2014 **Skeleton-based 3D model deformation**, *Graduation project.*

- Built a system for interactively generating mesh skeleton, adapted it to the mesh model, and animated the 3D model with the published skeletal motion data
- Programming: C++, Qt, OpenGL

Honors and Awards

2023 **Gary Marsden Travel Awards**, *ACM SIGCHI.*

2016 **Excellent Student Leader**, *University of Chinese Academy of Sciences.*

2015 **Merit Student**, *University of Chinese Academy of Sciences.*

2015 **Third Prize(Ranked 5^{th})**, *ChinaVis Data Challenge.*

2014 **Outstanding Graduate**, *Sichuan University.*

2014 **Excellent Graduation Project(Top 5%)**, *Sichuan University.*

2012 **National Scholarship(Top 2%)**, *Ministry of Education of the P.R.China.*

Teaching Experience

Spring 2020 **Teaching Assistant**, *COMP 4462 : Data Visualization*, The Hong Kong University of Science and Technology.

Fall 2018 **Teaching Assistant**, *COMP 5631 : Cryptography and Security*, The Hong Kong University of Science and Technology.

Spring 2017 **Teaching Assistant**, *20162-1502980001: Introduction to Visual Information Processing*, Shenzhen University.

Fall 2016 **Teaching Assistant**, *20161-1500610001: Computer Graphics*, Shenzhen University.

Community Involvement

2015 – 2016 **Vice President**, *SIAT Postgraduate Association.*

2014 **Student Volunteer**, *SIGGRAPH Asia.*

Skills

Programming Proficient in JavaScript/TypeScript, HTML, CSS, Python, C/C++, SQL

Toolkit D3.js, Vega-Lite, Three.js, Webpack, Antd for React, Tailwind CSS, Qt, OpenGL

Prototyping Adobe shop, Adobe Illustrator, Autodesk 3ds Max

Languages Mandarin(native), Cantonese(native), English(professional working proficiency)