Xiaojian Chen

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Education

Nanjing Normal University   *Nanjing, China*

BACHELOR OF SCIENCE IN COMPUTER SCIENCE, GPA: 3.96/5.00   *Sept. 2019 - Jun. 2023 (expected)*

Experience

Visualization Group, Nanjing Normal University   *Nanjing, China*

RESEARCH ASSISTANT, ADVISOR: PROF. RICHEN LIU   *Mar. 2020 - Present*

- My research focused on applying 3D scientific volume data visualization and interaction in immersive environment.

Beijing Nan Shi Technologies Co., Ltd   *Beijing, China (Online)*

SOFTWARE ENGINEER INTERN   *Jan. 2022 - May. 2022*

- Designed and implemented a personalized questionnaire template customization tool based on QT for medical staff. Enhanced the questionnaire identification tool to support batch processing of multiple questionnaires, the identification efficiency is improved by 30%.
- Image Detection & Segmentation, Interactive Design (IxD)

Projects

[XR+Vis] Immersive Tiled Display Wall with Clustering-Driven Layout   *Mar. 2022 - Present*

- Designed three types of layouts to explore clusters with different semantic and topological structures.
- Implemented an OD query algorithm in an immersive environment to query the clustering of source and destination, respectively.
- The method of generating TDW automatically has been submitted to a patent. This work has been submitted to the ISMAR 2022 Conf. Track.

[XR+Vis] Interactive and Immersive Geological Data Explorer   *Sept. 2021 - Feb. 2022*

- Designed and implemented multiple stratigraphic display modes based on volume data segmentation algorithms.
- Developed a transfer function design components for seismic data to personalize geological information.
- This research led to a publication at *International Journal of Geo-Information* (JCR Q2 SCI, 1st author).

[HCI] Data Presentation Animations Creator for Immersive Environment   *Dec. 2020 - Aug. 2021*

- Built a graphic data animation authoring tool by QT, which supports simple operations to build immersive data exploration animation.
- Created a data transmission framework to transfer the data between devices, and the average transmission delay is less than 3*ms*.
- This project won The 2nd Prize (National Level) of China Collegiate Computer Design Contest.

[SciVis] Medical Visualization and Volume Rendering   *Apr. 2020 - Nov. 2020*

- Implemented immersive Ray-Casting algorithm to render 3D medical volume data in immersive environment.
- Conducted multi-user volume rendering test experiments, learned the Ray-Casting algorithm developed on PCs.
- Related projects derived from this research were published in 2 SCI journals and 2 visualization conferences.

Publications

- **X. Chen**, H. Wang, Y. Zhu, H. Wang, M. Su, S. Bao, and Y. Wu. Interactive Geological Data Visualization in an Immersive Environment, *International Journal of Geo-Information, 11(3):176, 2022*, **JCR Q2 SCI**, IF=2.899.
- C. Zhang, **X. Chen**, Y. Zhu, X. Wang, S. Chen, X. Wen, and R. Liu. Multi-user Collaborative Volume Data Illustration and Visualization, In: *Proceedings of the 31th IEEE Visualization Conference (VIS2020)*, **CCF-A Poster**.
- D. Yang, Z. Mao, **X. Chen**, S. Chen, X. Wen, M. Jiang, and Y. Wu. Visualization Transfer from 2D Image to 3D Volume, In: *Proceedings of the 14th IEEE Pacific Visualization Symposium (PacificVis 2021)*, **Best Poster Award**, CCF-C Poster.
- R. Liu, H. Wang, C. Zhang, **X. Chen**, L. Wang, G. Ji, B. Zhao, Z. Mao, and D. Yang. Narrative Scientific Data Visualization in an Immersive Environment, In: *Bioinformatics*, 37(14):2033-2041, 2021, **CCF-B + SCI**, IF=6.937.
- R. Liu, X. Wen, M. Jiang, G. Yang, C. Zhang, and **X. Chen**. Multiuser Collaborative Illustration and Visualization for Volumetric Scientific Data, In: *Software: Practice and Experience*, 51(5):1080-1096, 2021, **CCF-B + SCI**, IF=2.028.

Patent

- **X. Chen**, R. Liu, H. Wang, H. Wang, Z. Xia, Y. Zhu, J. Xu, X. Wang, S. Yan and X. Qian. A Method of Automatically Generating Virtual, Immersive Tiled Display Wall Based on Clustering-driven Algorithm, *Application No. 202210538482.0*, Pending.

Skills

Languages   C/C++, C#, Java, Python, Python, OpenGL, CG, GLSL

Technologies   Unity, Vuforia, QT, Spring, Unity Mirror, CMake, LaTeX, Git

Self Evaluation

Follow state-of-the-art technology with keen interest, good at gaining new knowledge, and with a strong sense of responsibility and teamwork