

Rui Xu

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SUMMARY

I am a final-year master's student at the Interdisciplinary Research Center (IRC) of Shandong University, under the supervision of **Prof. Changhe Tu** and **Prof. Shiqing Xin**. My research areas are computer graphics, computational geometry, point cloud reconstruction, and geometric modeling. I am joining The University of Hong Kong as a Ph.D. student supervised by **Prof. Wenping Wang** and **Prof. Taku Komura**.

EDUCATION

•Shandong University

M.Eng in Computer Science

2021 - 2024 (Expected)

Shandong, China

•Shandong University

B.Eng in Computer Science

2017 - 2021

Shandong, China

AWARDS

- ACM SIGGRAPH 2023 Technical Papers Best Paper Award
- 2023 Shandong University "Power of role models" Person of the Year
- 2023 Shandong University Presidential Scholarship
- 2023 National Scholarship
- 2022 Hisense Scholarship

EXPERIENCE

•Tencent Intern

Research in Geometry Modeling.

Sep 2022 - Dec 2022

Shenzhen, China

•Alibaba Intern

Algorithm Engineer for Digital Twins with Unreal Development.

May 2020 - Sep 2020

Hangzhou, China

PUBLICATIONS

•Globally Consistent Normal Orientation for Point Clouds by Regularizing the Winding-Number Field

Rui Xu, Zhiyang Dou, Ningna Wang, Shiqing Xin, Shuangmin Chen, Mingyan Jiang, Xiaohu Guo, Wenping Wang, Changhe Tu

– ACM Transactions on Graphics (SIGGRAPH 2023) [Project Page] [Code]

– ACM SIGGRAPH 2023 Technical Papers Best Paper Award

•RFEPS: Reconstructing Feature-line Equipped Polygonal Surface

Rui Xu, Zixiong Wang, Zhiyang Dou, Chen Zong, Shiqing Xin, Mingyan Jiang, Tao Ju, Changhe Tu

– ACM Transactions on Graphics (SIGGRAPH Asia 2022) [Project Page] [Code]

•Implicit Neural Representation of Unoriented Point Clouds by Enforcing Singular Hessian

Zixiong Wang, Yunxiao Zhang, Rui Xu, Fan Zhang, Pengshuai Wang, Shuangmin Chen, Shiqing Xin, Wenping Wang, Changhe Tu

– ACM Transactions on Graphics (SIGGRAPH Asia 2023) [Project Page] [Code]

•A Hessian-Based Field Deformer for Real-Time Topology-Aware Shape Editing

Yunxiao Zhang, Zixiong Wang, Zihan Zhao, Rui Xu, Shuangmin Chen, Shiqing Xin, Wenping Wang, Changhe Tu

– SIGGRAPH Asia 2023 Conference

•SurfaceVoronoi: Efficiently Computing Voronoi Diagrams over Mesh Surfaces with Arbitrary Distance Solvers

Shiqing Xin, Pengfei Wang, Rui Xu, Dongming Yan, Shuangmin Chen, Wenping Wang, Caiming Zhang, Changhe Tu*

– ACM Transactions on Graphics (SIGGRAPH Asia 2022) [Code]

•QuickCSGModeling: Quick CSG Operations Based on Fusing Signed Distance Fields for VR Modeling

Shuangmin Chen, Rui Xu, Jian Xu, Shiqing Xin, Changhe Tu, Chenglei Yang, Lin Lu*

– ACM Transactions on Multimedia Computing Communications and Applications (ToMM 2023)

•**Coverage Axis++: Efficient Inner Point Selection for 3D Shape Skeletonization**

Zimeng Wang*, Zhiyang Dou*, **Rui Xu**, Cheng Lin, Yuan Liu, Xiaoxiao Long, Shiqing Xin, Lingjie Liu, Taku Komura, Xiaoming Yuan, Wenping Wang

– Arxiv

•**Mesh-MLP: An all-MLP Architecture for Mesh Classification and Semantic Segmentation**

Qiujie Dong, **Rui Xu**, Xiaoran Gong, Zixiong Wang, Shuangmin Chen, Shiqing Xin, Changhe Tu

– Arxiv

•**Coverage Axis: Inner Point Selection for 3D Shape Skeletonization**

Zhiyang Dou, Cheng Lin, **Rui Xu**, Lei Yang, Shiqing Xin, Taku Komura, Wenping Wang

– Computer Graphics Forum (Eurographics 2022) [[Project Page](#)] [[Code](#)]

•**EasyVRModeling: Easily Create 3D Models by an Immersive VR System**

Zhiying Fu, **Rui Xu**, Shiqing Xin, Shuangmin Chen, Changhe Tu, Chenglei Yang, Lin Lu

– ACM SIGGRAPH Symposium on Interactive 3D Graphics and Games (i3D 2022)

•**Top-Down Shape Abstraction Based on Greedy Pole Selection**

Zhiyang Dou, Shiqing Xin*, **Rui Xu**, Jian Xu, Yuanfeng Zhou, Shuangmin Chen, Wenping Wang, Xiuyang Zhao, Changhe Tu

– IEEE Transactions on Visualization and Computer Graphics (TVCG 2020)