Jing REN
CNB G 108, Universitaetstrasse 6, 8092 Zurich, Switzerland
+41 792-1023-82 | jing.ren@inf.ethz.ch | http://ren-jing.com/

RESEARCH INTERESTS
Geometry processing, shape modeling, shape analysis, and computer graphics. In particular: non-rigid shape matching, urban reconstruction, geometric modeling and shape deformation, digital fabrication.

RESEARCH EXPERIENCE

ETH Zurich, Interactive Geometry Lab
Senior Researcher; advised by Prof. Olga Sorkine-Hornung
Zurich, Switzerland
Jul 2023 - Now

ETH Zurich, Interactive Geometry Lab
Postdoctoral Researcher; advised by Prof. Olga Sorkine-Hornung
Zurich, Switzerland
Dec 2021 - Jun 2023

Tencent, AI Lab (Digital Human)
Researcher
Shenzhen, China
Jul 2021 - Dec 2021

Alibaba, DAMO Academy, AI center (City Brain)
Research Intern
Zhejiang, China
Jul 2020 - Jun 2021

École Polytechnique, Laboratoire d’Informatique (LIX)
Research Intern; advised by Prof. Maks Ovsjanikov
Palaiseau, France
Jun 2017, 2018, 2019

EDUCATION

KAUST, Visual Computing Center (VCC)
PhD in Computer Science; Supervised by Prof. Peter Wonka and Prof. Maks Ovsjanikov
Jeddah, Saudi Arabia
Aug 2015 - Jul 2021

University of Oxford, St Edmund Hall
Master of Science in Mathematical and Computational Finance with distinction
Oxford, United Kingdom
Sep 2014 - Jul 2015

Zhejiang University (ZJU), Chu Kochen Honors College
Bachelor of Science in Mathematics and Applied Mathematics; GPA: 3.88/4.0 (top 5%)
Zhejiang, China
Aug 2010 - Jun 2014

PUBLICATIONS

18 Fabric Tessellation: Realizing Freeform Surfaces by Smocking
Aviv Segall, Jing Ren, Amir Vaxman, Olga Sorkine-Hornung
ACM Transactions on Graphics (Proc. SIGGRAPH), 2024

17 Computational Smocking through Fabric-Thread Interaction
Ningfeng Zhou, Jing Ren, Olga Sorkine-Hornung
EUROGRAPHICS, 2024

16 Digital 3D Smocking Design
Jing Ren, Aviv Segall, Olga Sorkine-Hornung
ACM Transactions on Graphics, 2024 (presented in SIGGRAPH Asia 2023)

15 Smooth Non-Rigid Shape Matching via Effective Dirichlet Energy Optimization
Robin Magnet, Jing Ren, Olga Sorkine-Hornung, Maks Ovsjanikov
International Conference on 3D Vision (3DV), 2022
Learning to Construct 3D Building Wireframes from 3D Line Clouds
Yicheng Luo, Jing Ren, Xuefei Zhe, Di Kang, Yajing Xu, Peter Wonka, Linchao Bao
British Machine Vision Conference (BMVC), 2022

Gaussian Blue Noise
Abdalla G. M. Ahmed, Jing Ren, Peter Wonka
ACM Transactions on Graphics (Proc. SIGGRAPH Asia), 2022

REALY: Rethinking the Evaluation of 3D Face Reconstruction
Zenghao Chai*, Haoxian Zhang*, Jing Ren, Di Kang, Zhengzhao Xu, Xuefei Zhe, Chun Yuan, Linchao Bao
European Conference on Computer Vision (ECCV), 2022 * equal contribution

Intuitive and Efficient Roof Modeling for Reconstruction and Synthesis
Jing Ren, Biao Zhang, Bojian Wu, Jianqiang Huang, Lubin Fan, Maks Ovsjanikov, Peter Wonka
ACM Transactions on Graphics (Proc. SIGGRAPH Asia), 2021

Discrete Optimization for Shape Matching
Jing Ren, Simone Melzi, Peter Wonka, Maks Ovsjanikov
Computer Graphics Forum (Proc. SGP), 2021

Fast Sinkhorn Filters: Using Matrix Scaling for Non-Rigid Shape Correspondence with Functional Maps
Gautam Pai, Jing Ren, Simone Melzi, Peter Wonka, Maks Ovsjanikov
Proc. IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2021

Geometric analysis of shape variability of lower jaws of prehistoric humans
Jing Ren, Peter Wonka, Gowtham Harihara, Maks Ovsjanikov
L'Anthropologie, 2020

MapTree: Recovering Multiple Solutions in the Space of Maps
Jing Ren, Simone Melzi, Maks Ovsjanikov, Peter Wonka
ACM Transactions on Graphics (Proc. SIGGRAPH Asia), 2020

MGCN: Descriptor Learning using Multiscale GCNs
Yiqun Wang, Jing Ren, Dong-Ming Yan, Jianwei Guo, Xiaopeng Zhang, Peter Wonka
ACM Transactions on Graphics (Proc. SIGGRAPH), 2020

Consistent ZoomOut: Efficient Spectral Map Synchronization
Ruqi Huang, Jing Ren, Peter Wonka, Maks Ovsjanikov
Computer Graphics Forum (Proc. SGP), 2020

ZoomOut: Spectral Upsampling for Efficient Shape Correspondence
Simone Melzi*, Jing Ren*, Emanuele Rodolà, Abhishek Sharma, Peter Wonka, Maks Ovsjanikov
ACM Transactions on Graphics (Proc. SIGGRAPH Asia), 2019 * equal contribution

Structured Regularization of Functional Map Computations
Jing Ren, Mikhail Panine, Peter Wonka, Maks Ovsjanikov
Computer Graphics Forum (Proc. SGP), 2019

Continuous and Orientation-preserving Correspondence via Functional Maps
Jing Ren, Adrien Poulenard, Peter Wonka, Maks Ovsjanikov
ACM Transactions on Graphics (Proc. SIGGRAPH Asia), 2018

Joint Graph Layouts for Visualizing Collections of Segmented Meshes
Jing Ren, Jens Schneider, Maks Ovsjanikov, Peter Wonka
IEEE Transactions on Visualization and Computer Graphics (TVCG), 2017
ACADEMIC SERVICE

Program Committees
SIGGRAPH 2024, 2023
SGP 2024, 2023
Pacific Graphics 2024, 2022

Reviewer
SIGGRAPH 2024, 2023, 2022
SIGGRAPH Asia 2023
ACM TOG 2024, 2023, 2022, 2021
EUROGRAPHICS 2024, 2023
SGP 2024, 2023
ECCV 2024
SCF 2024
ICML 2023
ISPRS 2023
Computers & Graphics 2023
NeurIPS 2022
BMVC 2022
CGF 2022
IEEE TVCG 2021
IEEE CGA 2018

HONORS & AWARDS

Best Paper Award @ International Conference on 3D Vision (3DV) 2022
Student Research Excellence Award @ KAUST 2020
Best Paper Award honorable mention @ Symposium on Geometry Processing (SGP) 2019
Graduate with distinction @ Oxford University 2015
Graduate with honors in Program of Science & Engineering @ Zhejiang University 2014
Scholarship for Outstanding Merits @ Zhejiang University 2011-2013
Excellence Student @ Zhejiang University 2011

TEACHING

Shape Modeling and Geometry Processing @ ETH Zurich  Guest Lecturer, Spring 2023
Linear Algebra @ ETH Zurich  Head Teaching Assistant, Autumn 2022
Shape Modeling and Geometry Processing @ ETH Zurich  Teaching Assistant, Spring 2022

INVITED TALKS & OUTREACH EVENTS (SELECTION)

Seminar talk @ Universität Siegen  Siegen, Germany
Topic: “Shape matching and map space exploration via functional maps”, hosted by Prof. Michael Möller  Mar 26, 2024

NACHTAKTIV “Science Catwalk” @ Museum Rietberg  Zurich, Switzerland
Topic: “Digital 3D Smocking Design” [event]  Nov 2, 2023

Seminar talk @ IST Austria  Klosternyeburg, Austria
Topic: “Digital 3D Smocking Design”, hosted by Prof. Chris Wojtan  Oct 24, 2023

Seminar talk @ TU Wien  Vienna, Austria
Topic: “Digital 3D Smocking Design”, hosted by Prof. Michael Wimmer  Oct 20, 2023

Seminar talk @ LORIA  Nancy, France
Topic: “Digital 3D Smocking Design”, hosted by Dr. Étienne Corman  Oct 4, 2023

Headline speaker @ Toronto Geometry Colloquium  online
Topic: “Non-rigid Shape Matching via Functional Maps”  Sep 17, 2021

Seminar talk @ Central South University  online
Topic: “Non-rigid Shape Matching via Functional Maps”, hosted by Prof. Shengjun Liu  Jun 27, 2021

Seminar talk @ TBSI, Tsinghua University  online
Topic: “ZoomOut: Spectral Upsampling for Efficient Shape Correspondence”, hosted by Prof. Ruqi Huang  May 31, 2021

Guest lecture @ ShanghaiTech University  online
Topic: “Discrete Laplace-Beltrami Operator”, hosted by Prof. Chi-Han Peng  May 7, 2020