

# HAN ZHANG

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## EDUCATION

<b>The Chinese University of Hong Kong, Hong Kong</b> Department of Mathematics	<i>August 2018 - July 2020</i> Master of Philosophy
<b>Sun Yat-Sen University, Guangzhou</b> School of Mathematics	<i>August 2014 - June 2018</i> Bachelor of Science

## RESEARCH INTEREST

Computational Geometry      Scientific Computing      Geometry Processing

## ACADEMIC EXPERIENCE

<b>The Key Laboratory of Computational Science of Guangdong Province</b> <i>Part-Time Research Assistant</i>	<i>September 2016 - April 2018</i> <i>Guangzhou, CHINA</i>
· Research on medical images supervised by Prof.Ying JIANG. Especially on finding a new approach for CT reconstruction through wavelet basis.	
<b>Faculty of Mathematics, The Chinese University of Hong Kong</b> <i>Teaching Assistant</i>	<i>August 2018 - July 2020</i> <i>Hong Kong, CHINA</i>
· Research on computational geometry and deep learning. Supervised by <a href="#">Lok Ming LUI</a>	
<b>Department of Computer Science, Shenzhen University</b> <i>Research Assistant</i>	<i>July 2020 - June 2021</i> <i>Shenzhen, CHINA</i>
· Research on scene reconstruction and path planning. Work with <a href="#">Hui Huang</a>	
<b>Faculty of Mathematics, The Chinese University of Hong Kong</b> <i>Research Assistant</i>	<i>July 2021 - Present</i> <i>Hong Kong, CHINA</i>
· Research on computational geometry and medical image segmentation. Supervised by <a href="#">Lok Ming LUI</a>	

## PROJECTS

<b>Quasi-Conformal and Neural Network</b> <i>with Lok Ming LUI</i>	<i>October 2019 - Present</i> The Chinese University of Hong Kong
Quasi-Conformal theory is a powerful tool to control the geometric deformation. Thus can control the degree of the deformation and preserve the topology of a spatial transformation in images. The project aim to introduce Quasi-Conformal into the neural network models to enable the convolution and the feature map deformable without destroying the topology of the original images.	
<b>Shape Signature and Its Application</b> <i>with Lok Ming LUI</i>	<i>July 2021 - Present</i> The Chinese University of Hong Kong
TBD	
<b>Continuous Path Planning for Reconstruction</b> <i>with Hui HUANG</i>	<i>July 2020 - June 2021</i> Shenzhen University
We introduce the first path-oriented drone trajectory planning algorithm, which performs continuous (i.e., dense) image acquisition along an aerial path and explicitly factors path quality into an optimization along with scene reconstruction quality.	

## PUBLICATIONS

Topology-Preserving Segmentation Network: A Deep Learning Segmentation Framework with Topology Constraint. <b>Han Zhang</b> , Lok Ming Lui (manuscript).
Quasi-Conformal Transformer Network. <b>Han Zhang</b> , Qiguang Chen, Yuchen Guo, Lok Ming Lui (manuscript).
Continuous Aerial Path Planning for 3D Urban Scene Reconstruction. <b>Han Zhang</b> , Yucong Yao, Ke Xie, Chi-Wing Fu, Hao Zhang, Hui Huang. ( <i>Siggraph Asia 2021</i> ).
Quasi-Conformal Neural Network (QC-net) with Applications to Shape Matching. <b>Han Zhang</b> ( <i>MPhil thesis</i> )

## ACADEMIC ACHIEVEMENTS

<b>Excellent Student Scholarship of Sun Yat-Sen University</b>	<i>First Class</i>
<b>Excellent Thesis of Sun Yat-Sen University</b>	<i>Outstanding</i>
<b>China Undergraduate Mathematical Contest in Modeling</b>	<i>Second Prize</i>
<b>National High School Mathematics League</b>	<i>Second Prize</i>

## EXTRA-CURRICULAR

<b>Institute of Computing Technology, Chinese Academy of Sciences</b> <i>Outstanding Student of 'Computing Future' summer training class</i>	<i>July 2017</i> <i>Beijing, CHINA</i>
·	
<b>Department of Mathematics, The Chinese University of Hong Kong</b> <i>Visiting Student</i>	<i>October 2017</i> <i>Hong Kong, CHINA</i>
·	
<b>Department of Mathematics, The Chinese University of Hong Kong</b> <i>Teaching Assistant</i>	<i>August 2018 - August 2020</i> <i>Hong Kong, CHINA</i>
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## TECHNICAL STRENGTHS

<b>Programming Languages</b>	C++, MATLAB, PYTHON, CGAL...
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