HAN ZHANG

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EDUCATION

City University of Hong Kong, Hong Kong *Ongoing*
Department of Mathematics — Ph.D. in Mathematics
Chinese University of Hong Kong, Hong Kong *July 2020*
Department of Mathematics — M.Phil. in Applied Mathematics
Sun Yat-Sen University, Guangzhou *June 2018*
School of Mathematics — B.Sc. in Computational Science

RESEARCH INTEREST

Computational Fluid Mechanics: Fluid-Structure Interaction, Blood flow simulation
Computational Differential Geometry: Geometric Deep Learning
Scientific Machine Learning: PINN method, Neural Networks
Image Science: Image Segmentation, Interactive Segmentation

JOURNAL PUBLICATIONS

1. QIS : Interactive Segmentation via Quasi-Conformal Mappings.
   Han Zhang, Daoping Zhang, Lok Ming Lui
   [Geometric Image project] - Under Revision of *SIAM JIS, 2024*

2. A Meshless Solver for Blood Flow Simulations in Elastic Vessels Using Physics-Informed Neural Network.
   Han Zhang, Raymond H. Chan, Xue-Cheng Tai
   [NSFSI project] - Published in *SIAM JSC, 2024*

3. Deformation-Invariant Neural Network and Its Applications on Image Classification and Restoration.
   Han Zhang, Qiguang Chen, Lok Ming Lui
   [Geometric Image project] - Under Revision of *NEU NET, 2024*

4. A Learning-based Framework for Topology-Preserving Segmentation using Quasiconformal Mappings.
   Han Zhang, Lok Ming Lui
   [Geometric Image project] - Under Revision of *NEUCOMP, 2024*

5. Continuous Aerial Path Planning for 3D Urban Scene Reconstruction.
   Han Zhang, Yucong Yao, Ke Xie, Chi-Wing Fu, Hao Zhang, Hui Huang.
   [Graphics] - Published in *ACM TOG, 2021*

JOURNAL PUBLICATIONS

- Solving A Full 3D Naiver-Stokes Equation in Irregular Compliant Vessel Using PINNs.
  Han Zhang, Xue-Cheng Tai
  [NSFSI project] - In progress *AMUC*

1. Nondeterministic Deformation analysis using Quasiconformal Geometry.
   Han Zhang, Lok Ming Lui
   [Geometric Image project] - Published in *IEEE ICIP, 2022*

ACADEMIC ACHIEVEMENTS

Research Postgraduate Scholarship
Excellent Student Scholarship of Sun Yat-Sen University *First Class*
Excellent Thesis of Sun Yat-Sen University *Outstanding*
China Undergraduate Mathematical Contest in Modeling *Second Prize*
National High School Mathematics League *Second Prize*

REVIEW

Computer Graphics Forum (EuroGraphics)

TEACHING

Calculus for Engineering(MATH1510)	2018-2019 FALL, at CUHK
Game Theory(MATH4250)	2018-2019 SPRING, at CUHK
Foundation of Modern Mathematics(MATH1050)	2019-2020 FALL, at CUHK

TECHNICAL STRENGTHS

Programming Languages C++, PYTHON, MATLAB...