

Yujian ZHENG (郑玉健)

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EDUCATION

Bachelor, Software Engineering **2014.9-2018.06**

Harbin Institute of Technology(HIT), Weihai, School of Computer Science and Technology

GPA:85.0/100

EXPERIENCES

Research Assistant **2019.3-present**

GAP Lab, The Chinese University of Hong Kong, Shenzhen, with *Prof. Xiaoguang HAN*

Research Assistant **2018.7-2019.1**

Visual Computing and Machine Intelligence Research Center, HIT, with *Prof. Pengbo BO*

Undergraduate Research Assistant **2016.4-2018.6**

Visual Computing and Machine Intelligence Research Center, HIT, with *Prof. Pengbo BO*

RESEARCH INTERESTS

My current research focuses on 3D shape modeling with data-driven methods. I also have broad interests in computer graphics and computer vision.

PUBLICATIONS

[6] Bo P B, **Zheng Y J**, Zhang C M. Smooth quasi-developable surfaces bounded by smooth curves. Under submission, 2019

[5] Bo P B, **Zheng Y J**, Jia X H, Zhang C M. Multi-strip smooth developable surfaces from sparse design curves. Accepted to *Symposium on Solid and Physical Modeling(SPM)*, 2019

[4] Zhang X Q, Bo P B, **Zheng Y J**, Zhang C M. Cone Spline Surface Fitting (in Chinese). Accepted to *Chinagraph 2018* and recommended to *J Comput-Aid Desig Comput Graph*

[3] **Zheng Y J**, Bo P B. Quasi-developable Surface Construction Based on Boundary Curve and its Application in Ship Hull Design (in Chinese). *J Comput-Aid Desig Comput Graph*, 2018

[2] Piao D S, **Zheng Y J**, Bo P B. Volume Rendering with Adaptive Local Feature Enhancement (in Chinese). *CSIAM Geometric Design and Computing of China(GDC)*, Yantai, 2017

[1] Bo P B, Wang Z, Zhang C M, **Zheng Y J**. Developable Surface Reconstruction from Noisy Data with L0-norm Minimization (in Chinese). *Sci Sin Inform*, 2017

RESEARCH EXPERIENCES

Computing the Maximal Developability of a Ruled Surface **2018.11-2019.1**

We designed a simple and effective algorithm to find an optimal and continuous mapping function between the two boundary curves of a ruled surface. This mapping function can ensure that the ruled surface achieves its maximal developability.

Multi-Strip Developable Surfaces Design and Optimization **2018.7-2018.12**

SPM 2019

We proposed an optimization method for multi-strip developable ruled surfaces modeling. This method relaxes curve interpolation constraint but achieves a smooth surface of high

accuracy of developability with controllable curve distance errors.

Developable Surface in Ship Hull Design

2017.12-2018.6

Excellent Graduation Project in HIT

A design system based on developable surface for optimizing ship lines and hulls has been designed and implemented. Using this system, ship designers can design smooth ship lines with interactive operations and obtain quasi-developable ship hulls through optimization.

Developable Surface Construction between Two Boundaries

2016.12-2017.8

GDC 2017, Yantai, Oral Report by Yujian

The subject is aimed to find a robust method which can construct a quasi-developable surface between two boundaries using several specific numerical optimization techniques. The phased results have been applied in ship hull design, which have been published on *J Comput-Aid Desig Comput Graph*.

Volume Rendering

2017.7

GDC 2017, Yantai, Oral Report by Yujian

This work is an optimization of Volume Illustration which is a well-known method in volume rendering based on non-photorealistic rendering.

Developable Surface Reconstruction from Noisy Data

2016.5-2016.11

China CAD&CG 2016

We presented an innovative method for Developable Surface Reconstruction from Noisy Data. In this work, I implemented an optimization approach to smooth normal vector field of given model via L0-norm minimization.

PROFESSIONAL SKILLS

Standardized Test: IELTS(6.5)

Programming Languages: C/C++, Java

Libraries and Tools: HLBFGS, OpenGL, OpenMesh, GeometricTools, Eigen

AWARDS

Excellent Student, HIT

2017

National Aspiration Scholarship, Ministry of Education, China

2016