**Qing Xia (夏 清)**

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**EDUCATION**

* **Ph.D., Computer Graphics & Digital Geometry Processing**  Sept. 2012 - Nov. 2018

Thesis Title: *Researches on Geometric and Physical Structural Feature Analysis for 3D Shapes*

Advisor: Prof. Aimin Hao (Beihang University) and Prof. Hong Qin (Stony Brook University, USA)   
 State Key Laboratory of Virtual Reality Technology and Systems, Beihang University

* **Ph.D. (Honorary), Computer Science**  Sept. 2012 - Nov.2018

School of Advanced Engineering (Shenyuan Honors College), Beihang University

Honors doctoral program selecting candidates (around 25) in different majors, only 3 in CS

* **B.E., Computer Science**  Sept. 2008 - Jun. 2018

Thesis Title: *Research and Implementation on Screen Space Based Real-time Fluid Surface Rendering of SPH*

School of Computer Science and Engineering, Beihang University

Recommended to the Ph.D. program without exams, top 10%

**PROFESSIONAL SKILLS**

Languages Chinese (Szechuanese & Mandarin, mother tongue), English (Fluent)  
 Programming C/C++, Matlab, Python, etc.  
 Expertise Real-time Rendering, Geometry Processing, Parallel Computing, Machine Learning, etc.  
 Frameworks OpenGL, GLSL, CUDA, OpenMP, Qt, Pytorch, OpenCV, ITK, etc.  
 Tools Visual Studio, PyCharm, Office, Photoshop, Blender, Amira, MeshLab, ITK-SNAP, etc.

**AWARDS & HONORS**

Excellent New Student Award (Top 400 in NCEE in Sichuan) Sept. 2008

Outstanding Graduate Award (Outstanding at Beihang) Jun. 2012

National Graduate Scholarship (3rd place among doctoral students in SCSE at Beihang) Oct. 2016

Excellent Foundation of BUAA for PhD students (Only 3 in CS) May 2017

Best Paper Award of ICVRV 2017 Oct. 2017

Outstanding Academic Paper Award (JCR Q1 paper) Apr. 2018

First Place Award of Atrial Segmentation Challenge @ MICCAI 2018 Sept. 2018

First Prize of IVRTC 2018 (Enterprise Group) Oct. 2018

**PROGRAM EXPERIENCE**

* **Visual Model and Environment Construction and Its Dynamic Simulation** Jan. 2016 - now

PI: Prof. Hong Qin

Duty: 3D model analysis and processing and other multi-source data applications related 3D models

* **Data Modeling and Interactive Virtual Surgery of Digital Human Organs** Jan. 2012 - Dec. 2016

PI: Prof. Qinping Zhao and Prof. Aimin Hao

Duty: PCI virtual surgery prototype system and other related techniques

**ACADEMIC PRESENTATIONS**

* **Pacific Graphics 2015, Beijing, China** Oct. 2015

The 23rd Pacific Conference on Computer Graphics and Applications (Oral)

* **ACM VRST 2015, Beijing, China** Nov. 2015

The 21st ACM Symposium on Virtual Reality Software and Technology (Oral)

* **GMP 2016, San Antonio, USA** Apr. 2016

The 10th International Conference on Geometric Modeling and Processing (Oral, CAGD paper)

* **SIGGRAPH Asia 2016, Macau, China** Dec. 2016

The 43rd SIGGRAPH Conference on Computer Graphics and Interactive Techniques (Oral, PCI simulator)

* **ICVRV 2017, Zhengzhou, China** Oct. 2017

International Conference on Virtual Reality and Visualization (Oral)

* **CGI 2018, Bintan Island, Indonesia** June 2018

Computer Graphics International (Oral)

* **MICCAI Workshop 2018, Granada, Spain**  Sept. 2018

The 21st International Conference on Medical Image Computing and Computer Assisted Intervention (Oral)

**PUBLICATIONS**

**Conference**

1. **Q. Xia**, S. Li\*, H. Qin and A. Hao. Modal Space Subdivision for Physically-plausible 4D Shape Sequence Completion from Sparse Samples. The 23rd Pacific Conference on Computer Graphics and Applications (Pacific Graphics 2015).
2. L. Yang, S. Li\*, **Q. Xia**, A. Hao and H. Qin. A Novel Analysis-and-Simulation Approach for Detail Enhancement in FLIP Fluid Interaction. The 21st ACM Symposium on Virtual Reality Software and Technology (VRST 2015).
3. Z. Xie, S. Li\*, **Q. Xia** and A. Hao. Kinetic simulation of cardiac motion with patient-specific coronary artery vessels attached for PCI simulator. International Conference on Virtual Reality and Visualization (ICVRV 2017). **Best Paper Award**.
4. X. Tan, X. Peng, L. Liu and **Q. Xia**\*. Automatic Human Body Feature Extraction and Size Measurement by Random Forest Regression Analysis of Geodesics Distance. International Conference on Virtual Reality and Visualization (ICVRV 2017).
5. C. Chen, **Q. Xia**, S. Li\*, A. Hao and H. Qin. High-fidelity Compression of Dynamic Meshes with Fine Details using Piece-wise Manifold Harmonic Bases. Computer Graphics International (CGI 2018).
6. **Q. Xia**\*, Y. Yao, Z. Hu and A. Hao. Automatic 3D Atrial Segmentation from GE-MRIs using Volumetric Fully Convolutional Networks. International Workshop on Statistical Atlases and Computational Models of the Heart (STACOM @ MICCAI 2018, **rank** **1st** **in Atrial Segmentation Challenge**)

**Journal**

1. S. Li, **Q. Xia**, A. Hao\*, H. Qin and Q. Zhao. Haptics-Equipped Interactive PCI Simulation for Patient-Specific Surgery Training and Rehearsing. SCIENCE CHINA Information Sciences, (2016) 59: 103101.
2. **Q. Xia**, S. Li\*, H. Qin and A. Hao. Automatic Extraction of Generic Focal Features on 3D Shapes via Random Forest Regression Analysis of Geodesics-in-Heat. Computer Aided Geometric Design, 49: 31-43, December 2016.
3. Y. Qiu, L. Yang, S. Li\*, **Q. Xia**, H. Qin and A. Hao. Novel Fluid Detail Enhancement based on Multi-Layer Depth Regression Analysis and FLIP Fluid Simulation. Computer Animation and Virtual Worlds, 2017, 28(5).
4. X. Tan, X. Peng, L. Liu and **Q. Xia**\*. Automatic Human Body Feature Extraction and Personal Size Measurement. Journal of Visual Languages and Computing, 2018, 47: 9-18.
5. S. Li, Z. Xie, **Q. Xia**, A. Hao\* and H. Qin. Hybrid 4D Cardiovascular Modeling based on Patient-Specific Clinical Images for Real-time PCI Surgery Simulation. Graphical Models, 2019, 101: 1-7.
6. **Q. Xia**, S. Li, A. Hao\* and Q. Zhao. Deep Learning for Digital Geometry Processing and Analysis: A Review. Journal of Computer Research and Development, 2019, 56(1): 155-182.
7. C. Chen, **Q. Xia**, S. Li\*, H. Qin and A. Hao. Compressing Animated Meshes with Fine Details using Local Spectral Analysis and Deformation Transfer. The Visual Computer. (to appear)
8. **Q. Xia**, C. Chen, S. Li\*, A. Hao and H. Qin. Fast 4D Shape Sequence Completion from Sparse Samples via Spline Fitting in Linear Rotation Invariant Space. Graphical Models. (under review)