PENGBIN TANG

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OBJECTIVE

Pengbin Tang is applying the Phd in Computer Science for his doctoral studies that he is eager to acquire cutting-edge expertise in computer graphics in general and physically-based simulation in particular.

EDUCATION

Shanghai University, Shanghai

• M.S. in Digital Media Technology *Sept. 2014 - Apr. 2017*
Advised by Prof. Youdong Ding and Dr. Dongjin Huang
2017 Excellent graduate of Shanghai University(Top %6)
2014, 2015 and 2016 First-class academic scholarship (Generally top %9 for every year)
2015-2016 outstanding student of Shanghai university(Top %7)
2016 second-class of GuangHua scholarship
Cumulative average score: 88.14/100, Rank 1/5

• B.S. in Film & TV Arts and Technology(Digital Media Technology) *Sept. 2010 - Jul. 2014*
2013 First-class Shanghai university extra-curricular science and technology works competition
2013 Unremitting self-improvement scholarship of Shanghai university
Obtained admission of exam-exempted postgraduate qualifications with the first overall grade(1/59)
Cumulative GPA: 3.48/4.0, Rank: 2/59

SKILLS

• Mathematical modeling and Numerical methods
• Proficiency in several programming languages, primarily with C/C++, but also with Matlab, Java and Python, and skillful at algorithm design and implementation
• Proficiency in CUDA, OpenGL, OpenCV etc. computer graphics and vision libraries
• Proficiency in hardware design and embedded development
• Strong communication skills, problem solving abilities and creativity
• Well research ability and paper written ability

PROJECTS AND EXPERIENCES

• **ZHONGTAI SECURITUIES CO.,LTD** Jun. 2017 - Now
C++ Developer

· Developing the risk-control module of extreme fast trading plateform(XTP) which is used for the fast trade of securities within 50us. Now the daily trading volume of this system is over $60 million.

• **Natural Science Foundation of China(No.61402278) : Guidewire dynamics interaction research based on adaptive precision cosserat elastic rod** Jan. 2015 - Jun. 2017
Main Participant

· Investigated and proposed the multi-fluid model, relevant angiography simulation algorithm and an add-on syringe force feedback hardware in minimally invasive surgery and written the research paper.
· Proposed a novel path planning method for minimally invasive diagnosis in medical images and written the research paper.

• **Shanghai Natural Science Foundation(No.14ZR1415800) : Research on flexible multi-body dynamic based guidewire and vascular interactive simulation** Jul. 2014 - Jun. 2017
Main Participant

· Investigated and proposed the membrane physical model, fast collision handling algorithm for angioplasty simulation in minimally invasive surgery and written corresponding research paper.

• Shanghai Committee of Science and Technology(No.14511108400) : China's precious historical video digital restoration platform Sept. 2014 - Jun. 2016
Main Participant

· Responsible for the framework of restoration system.
· Restoration the missing frame of the video by the optical flow interpolation algorithm.

• Presented and reported in international conference

· Given a paper speech of "Position Based Balloon Angioplasty" in the 15th ACM SIGGRAPH Conference on Virtual-Reality Continuum and Its Applications in Industry(VRCAI). Dec. 2016, Zhuhai
· Made a paper speech of "Real-Time Simulation of Contrast Media Diffusion Based on GPU" in 2015 International Conference on Virtual Reality and Visualization(ICVRV). Oct. 2015, Xiamen
· Given a paper speech of "Modeling and Simulation of Multi-frictional Interaction Between Guidewire and Vasculature" in 2015 International Conference on Image and Graphics(ICIG). Aug. 2015, Tianjin

PUBLICATIONS AND PATENTS

1. **Position Based Balloon Angioplasty,** *Proceedings of the 15th ACM SIGGRAPH Conference on Virtual-Reality Continuum and Its Applications in Industry(VRCAI), Volume 1. ACM, 2016: 391-400.*
   Co-author: Wen Tang(Prof., University of Bournemouth,UK), Youdong Ding(Prof., Shanghai University), Dongjin Huang(Dr., Shanghai University) etc.
2. **Development of 3D Interactive Virtual Angiography for Medical Training,** *Manuscript submitted to Computer Methods and Programs in Biomedicine(CMPB)*
   Co-author: Dongjin Huang, Youdong Ding, Wen Tang etc.
3. **Computer-Assisted Path Planning for Minimally Invasive Vascular Surgery,** *Accepted by Chinese Journal of Electronics(Presented at CAD/Graphics 2017)*
   Co-author: Dongjin Huang, Yin Wang, Wen Tang etc.
4. **Real-Time Simulation of Contrast Media Diffusion Based on GPU,** *2015 International Conference on Virtual Reality and Visualization (ICVRV), pp. 286-289, 2015.*
   Co-author: Dongjin Huang, Youdong Ding and Wen Tang etc.
5. **Modeling and Simulation of Multi-frictional Interaction Between Guidewire and Vasculature,** *International Conference on Image and Graphics (ICIG), pp. 524-537, 2015.*
   Co-author: Dongjin Huang, Wen Tang, Youdong Ding etc.
6. **Fast generating algorithm of interest roaming path based on freehand sketch,** *Journal of System Simulation, volume 28(3), pp. 577-583, 2016.*
   Co-author: Dongjin Huang and Youdong Ding
7. **Personality-Oriented Recommendation and Virtual Display for 3D Home Design Based on Interaction History,** *Journal of Applied Sciences, volume 33, pp. 407-418, 2015.*
   Co-author: Dongjin Huang and Youdong Ding
8. **The contrast media of virtual angiography diffusion process simulation method based on SPH,** *China Invention & Patent*
   Co-author: Dongjin Huang, Youdong Ding, Zhifeng Xie etc.
9. **Real-time balloon angioplasty surgery process simulation method,** *China Invention & Patent*
   Co-author: Dongjin Huang, Zhifeng Xie and Youdong Ding