Fei Zhu (朱飞)

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Research Interests

Computer Graphics: Physics based animation

• Fast and accurate simulation of complex deformable materials

• Computational simulation of solid fracture, fluid, and hair

• Artistic control of physics-based simulation

Education

Peking University   **September 2010 - June 2015 (expected)**

• Ph.D. Candidate in Computer Science

• Advisor: Prof. Guoping Wang

Xi'an Jiaotong University   **September 2006 - June 2010**

• B.E. in Computer Science with honors (rank 1st /183)

• Thesis: Comparative Study of two GPU-friendly Mesh Refinement Algorithms

Experience

Visiting Graduate Researcher

University of California, Los Angeles   September 2013 – December 2013

• Work with Prof. Joseph Teran on a hair simulation project using Material Point Method

Teaching Assistant

Peking University   February 2013 – June 2013

• Undergraduate computer graphics course

• Give lectures and provide assistance with course projects

Projects

Physika: a versatile physics simulation library

• Project organizer and maintainer

• Designed architecture of the library, constructed cross-platform build tool for the project, and serve as major code contributor

Artistic Control of Deformable Simulation

• A novel algorithm for example-based deformable simulation

• Outperform previous methods in computational efficiency and the choice of input example shapes

- Paper accepted by Computer Graphics Forum

Meshless Simulation of Solids and Fluids

- Study the application of meshless methods to solid simulation and fluid simulation
- Proposed a new method to increase the stability of meshless methods for solid simulation
- Paper accepted by IEEE Conference on CAD/CG 2011

Geometric Modeling with Semantic Constraints

- Developer of the semantic editing tool for *PUM*, a CAD modeling system of PKU Graphics Lab
- Support shape editing with predefined constraints, e.g. parallelism and perpendicularity

Mesh Processing in Multi-View Reconstruction

- Developer of the mesh-processing tool for *2-3DView*, a multi-view reconstruction system that reconstructs 3D models from a series of photographs.
- Implemented state of the art mesh simplification and reconstruction algorithms into the system

Publications

- **Fei Zhu**, Sheng Li, Guoping Wang: *Example-based Materials in Laplace-Beltrami Shape Space*. Computer Graphics Forum: to appear.

- Ning Liu, **Fei Zhu**, Sheng Li, Guoping Wang: *Anisotropic Kernels for Meshless Elastic Solids*. Proceedings of the 12th International Conference on Computer-Aided Design and Computer Graphics: 349-356. DOI: 10.1109/CAD/Graphics.2011.33

Skills

- **Languages:** Mandarin Chinese (native), English (professional working proficiency)
- **Programming Languages:** C, C++, Objective-C, Java
- **Tools:** Gcc/G++, Scons, Makefile, Git, SVN, LaTeX, OpenGL, OpenMP, Emacs, etc.
- **Operating Systems:** Windows, MacOS, Linux

Honors & Awards

President Scholarship, Peking University	2010 - present
Founder Scholarship, Peking University	2011
Outstanding Graduate, Xi'an Jiaotong University	2010
National Encouragement Scholarship	2008 – 2009
EASTCOM Scholarship, Xi'an Jiaotong University	2007
SiYuan Scholarship, Xi'an Jiaotong University	2006