# Job Intention

 Algorithm Engineer / R&D Engineer

# Research Interests

**Computer Graphics: Physics based animation**

* Fast and accurate simulation of fluids
* GPU-based real-time fluids
* Fast rendering technique of fluids

# Education

## Peking University September 2011 - June 2016 (expected)

* Ph.D. Candidate in Computer Science
* Advisor: Prof. Guoping Wang

## Sun Yat-sen University September 2007 - June 2011

* B.E. in Computer Science with honors (rank 5th /171)
* Thesis: GPU-based parallel computing of fluid physics Simulation

# Honors & Awards

* Programming Contest of SYSU, 2nd prize and 3rd prize 2009-2010
* Citi Cup Financial Innovation Contest of SYSU, 1st prize 2009
* Outstanding Scholarship, Sun Yat-sen University 2008-2009
* Tencent Technology Scholarship, Sun Yat-Sen University 2009
* Outstanding Scholarship, Peking University 2014

# Research Projects

[**Physika**](https://github.com/FeiZhu/Physika)**：A versatile physics simulation library**

* One of the project organizer and maintainer
* Designed architecture of the library and define the coding standards
* Serve as major code contributor for fluids and some basic data-structure and algorithm

**Capillary waves of SPH simulation**

* A novel algorithm for enriching fluids with capillary waves
* Outperform previous methods in computational efficiency and the choice of basic method

**GPU-based large scale simulation of fluids**

* Study the simulation of fluid with large time step and large scale
* Proposed a new framework of SPH to simulate fluid with GPU, which improved the efficiency greatly
* **Parallel construction of signed distance field**
* Study the construction of signed distance field with CUDA
* Proposed a new algorithm to accelerate the constructing, the speed up ratio could be 10-20 compare to traditional method perform on CPU
* This method could be used to handle boundary collision in simulation of solid and fluids

# Internship/Venture Projects

* [**Geyo Technical Company**](http://www.geyo.com/) **(2013.4 ~ 2014.7)**
* Developer of the SLG-SIM games: The battle of the Three Kingdoms
* Responsible for particle effects and the design of the system of mission and social
* **Dynamic Signature Verification(2014.4 ~ 2014.12)**
* Developer of the algorithm performed on the android, responsible for the Chinese improvements
* This Project has been applied in some bank with the purpose of ‘Paperless Office’

# Skills

 **Languages:** Mandarin Chinese (native), English (professional working proficiency)

 **Programming Languages：** C/C++

 **Tools：** CUDA, Gcc/G++, Scons, Git, LaTeX, OpenGL, Unity3D

# Personal Profile

 Sports, GYM, Study, Life!