Suyang Wang

Resume

4403 Walnut St. Apt 2A
Pennsylvania, PA, 19104
215-300-6778
suyang@seas.upenn.edu

Education

'13-'15 **University of Pennsylvania** , *Pennsylvania, PA.*
Candidate for Master of Science in Engineering GPA 3.83/4.0
Computer Graphics and Gaming Technology (CGGT) in Computer and Information Science Department
Studies are focused on computer graphic algorithms in visualization, rendering, game mechanics and AI. Lecture topics cover Computer Graphics&advanced CG, GPU algorithm&Architecture, Animation&Physical-based Animation, Game Design&Practicum, Digital Sculpture and Engineering Entrepreneurship.

'09-'13 **Shanghai Jiao Tong University**, *Shanghai, P.R.China.*
Bachelor of Science GPA 87.0/100
Electrical Engineering
Core Courses: Mathematical Analysis, Linear Algebra, Discrete Mathematics, Probability and Statistics, Communication Principles, Signals and Systems, Discrete Signal Processing, Digital Image Processing, Principles and Applications of Digital Television, Visual C++ Programming, ARM Embedded Systems and its Experiments, Data Structure, American history and culture, American Constitution and American Society
Honors: Academic Excellence Scholarship triple times, China Undergraduate Mathematical Contest in Modeling

Technical Skills

Languages	Proficiency in C/C++, C#, Python, MATLAB scripts, OpenCV, MEL, OpenGL GLSL, VHDL, LaTeX
Softwares	Keil, AVR Studio, Linux (Ubuntu), Unity3D, Maya(Modeling and API), Houdini(Modeling and API)
Embedded Systems	C51 series, AVR series, ARM, Altera FPGA (DE2)

Recent Projects

'14.1-5 **Game development with Unity3D engine and C#**.

- Re-implement classic Asteroid game with rigid body for asteroids, player's space shuttle and UFOs;
- Implement game based on simple hide and seek rules with AI;
- "Colony" game with mass-spring system for flexible environment and models with PC & Android version.

'13.9-'14.5 **Animation and Physical-based Animation based on C++**.

- Implement BVH player based on FK and IK algorithms for character control and motion blending;
- Implement behavior controller enabling tasks such as seeking, queuing, obstacles avoiding, flocking, etc;
- Physical-based animation such as mass-spring system, position-based deformation and fluid simulation.
- Implement Position-Based fluid with new constrains proposed to simplify collision detection algorithms.

'13.9-12 **Real-time and off-line render based on C++**.

- Off-line ray-tracer with transparency, refraction, reflection for the user specified scene graph;
- User-friendly real-time OpenGL render for checking and adjusting scene in runtime;
- Ray-marcher for volumetric rendering with user-defined function for animation.

Experience

'12.7-'13.6 **Research Assistant**, *Image, Video, and Multimedia Communications Laboratory*, Shanghai, P.R.China.
Focused on image processing and pattern recognition.

- Lung nodule detection and segmentation from CT image based on LIDC with SVM by C++ 3rd party library ITK and VTK.
- Vessel extraction from CT image based on intensity with MATLAB and visualized with VTK.

'10.10-'11.10 **Research Assistant**, *Key Laboratory of System Control and Information Processing*, *Ministry of Education(SCIP)*, Shanghai, P.R.China.
Developed a Wireless Sensor Network acquiring data with a computational terminal and database for storing and managing and portable terminals for remote access (National Patent NO.201210054563.X).
My contributions include:

- Programming wireless nodes for network forming and data acquiring with nesC on the embedded TinyOS system.
- Proposing and implemented localizing algorithm with MATLAB and providing API for GUI and post processing.
- Simulating the behavior for the backstage system with MATLAB.