JIA LIU

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OBJECTIVE	To obtain a full time job in software engineering that utilizes my engineering knowledge and programming skills.

EDUCATION

Carnegie Mellon University   **Pittsburgh, PA**
Masters of Science, Mechanical Engineering, May 2014
Overall GPA: 3.7/4.0

Zhejiang University   **Zhejiang, China**
Bachelor of Science, Energy & Environment Systems Engineering, June 2012
GPA 3.6/4.0

SKILLS

Programming: Java, C/C++, OpenGL, GLSL, Linux, Python, Matlab, JavaScript, Html, QT
Software: Maya, Premier, Photoshop, Indesign, Premier, Cantera, AutoCAD
Languages: English, Mandarin, Korean

RELEVANT EXPERIENCE

Graphics Laboratory, Robotics Institute   **Carnegie Mellon University**
Research Assistant, June, 2013-present
- Wrote animation viewer for hand grasping system to test the optimization
- Documated approximately 200 tasks of grasp and manipulation gestures of human hands
- Created taxonomy data base to classify those tasks, focused on motion

PUBLICATIONS

Jia Liu, Fangxiaoyu Feng, Yuzuko Nakamura, Nancy Pollard. *A Taxonomy of Everyday Grasps in Action.* Humanoid 2014. Under submission

PROJECTS

Computer Graphics Course Projects (C++/OpenGL), Spring 2013
- Mesh Subdivision: Used Loop/Butterfly scheme to subdivide meshes of 3D geometry
- Shader Programming: Rendered 3D objects, pixilation and sharpening effect
- Ray Tracing: Rendered a 3D scene with soft shadow, anti-aliasing and depth of field effects
- Simple Physics Engine: Simulated physical movement of objects

Animation Art and Technology Course Projects (Maya), Spring 2014
- Built polygonal primitive shape objects to create a rendered animation by using deformer and blend shape, and render it with lights, shadows and textures
- Made short movie clips by creating a fully articulated character model of my own design and animate it using a skeleton and IK control

Computational Photography Projects (Matlab), Fall 2013
- Images of the Russian Empire, colorizing the Prokudin-Gorskii photo collection
- Eulerian Video Magnification, Stitching Photo Mosaics
- Face morphing and modeling photo collection
- Gradient-Domain Editing including blending, tone-mapping, and non-photorealistic rendering

Software System Construction Course Projects (Java), Fall 2013
- Design and implement a scrabble board game in Java, GUI in Java Swing
- Designed and implemented a social-media analysis framework and plugins for Twitter
- Implemented a distributed map/reduce framework

Computer Aided Design Projects (C++), Spring 2013
- Built a new algebraic model and algorithms to characterizes patterns
- Presented an interactive shape editing system based on this model
- Created User Interface to demonstrate effectiveness with QT

3D Shooting Game (C++/OpenGL), Fall 2012
- Developed a 3D shooting game using C++ and OpenGL in a team of 5
- Created the 3D environment by using texture mapping

RELEVANT COURSES	Computer Graphics(15665)	Computational Photography(15663)
	Animation Art and Technology(15665)	Web Application Development(15637)
	Principles of Software System Construction (15214)	Cloud Computing(15619)
	Engineering Computation(24780)	Computer Aided Design(24681)
	Introduction to Computer Systems(15213)	Machine Learning(10601)
	Data Structures in Java(15121)	