

# JESSIE J MAO

CODE / COMPUTER GRAPHICS / ART

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## EDUCATION

University of Pennsylvania School of  
Engineering and Applied Sciences

BSE Candidate in Digital Media Design  
Minor in Fine Arts. Class of 2015  
Cumulative GPA: 3.87 / 4.00

## RELEVANT COURSEWORK

\* Current Courses

Computer Programming (Intro, I, II)  
Intro to Computer Systems (C, Assembly)  
Intro to Computer Graphic Techniques,  
Computer Graphics (C++)  
Computer Animation \*  
Physically Based Animation \*  
3D Modeling (Maya)  
Figure Modeling (Maya, Mudbox)  
Facial Animation \*

## SKILLS

Java • C++ • Javascript • CSS • HTML  
Maya • Mudbox • Photoshop • Illustrator  
Premiere • Final Cut Pro

## EXTRACURRICULARS

PennApps (F2012, S2013, F20213)  
Google Games (2012, 2013)  
Penn Taekwondo Co-Chair  
UPenn SIGGRAPH Secretary  
SIGGRAPH 2012 Student Volunteer  
Penn Reading Initiative Mentor  
Daily Pennsylvanian Staff Photographer

## EXPERIENCE

**Engineering Praticum Intern.** Google Inc. Hosts: Angela Chang, Ben Schroeder. May 2013 - Aug 2013

- Prototyped transition animations for the Knowledge Carousel search feature
- Implemented two sorting transition animations in Java, Javascript, and CSS
- Moved server-side carousel sorting logic to client to eliminate latency and improve UI smoothness
- Worked closely with engineers as well as designers on the feature
- Prototyped tree visualization using HTML5 details and Closure Zippy for an internal testing tool

**Digital Media Lab Consultant.** Vitale Digital Media Lab. Employer: David Taccofondi. Jan 2013 - Present

- Assisted patrons with scanning, printing, poster printing, audio/video format conversions
- Responsible for digital media equipment rentals and returns
- Offered expertise in creative applications such as Adobe Creative Suite, Final Pro, and iMovie

**Graphic Designer.** "The Hi! App" iOS Social Media App. Employer: Daniel White. Feb 2012 - Dec 2012

- Designed menus and dialogue layouts in iOS user interfaces
- Created buttons, backgrounds, icons, and other graphics in Photoshop and Illustrator

**Graphic Designer.** "Swing Away" iOS Game. Partner: Kasra Kyanzadeh. Jul 2011 - Dec 2011

- Produced character and level design, dialogues, menus, and buttons
- Created sprites, backgrounds, splash screen, intro comic, and icon for the game

**Research Assistant in Digital Media Learning.** UPenn Graduate School of Education.

Employer: Yasmin Kafai. Oct 2011 - Sept 2012

- Edited video for promoting computer science and STEM education in lower schools
- Mentored middle school classroom learning Scratch at Penn Alexander School
- Transcribed and logged videos of interviews and classes taught on E-Textiles and Scratch

## PROJECTS

**Ray Tracer.** Final Project for Computer Graphics. Dec 2013

Renders images from a customizable scene of furnitures using ray tracing.

Coded in C++. Pre-Render GUI uses OpenGL and QT.

- Calculates the lighting in the scene by recursively tracing rays originating from the camera
- Customizable light positions, light colors, furniture positions, and furniture materials
- Handles materials with reflectivity, transparency, and refractivity

**Mini Maya.** Group Final Project for Intro to Computer Graphics Techniques. May 2013

A simplified version of Maya, a 3D computer graphics software. It is a buildup of half a semester's individual work in the class. Coded in C++ with OpenGL and QT GUI framework.

- Features include: 3D camera, geometry manipulation via HalfEdge data structure, selection of vertices, edges, and faces via ray casting, and OBJ file import
- Implemented free form deformation and global deformations including twist, bend, and taper