



# Ming-Lun "Allen" Chou

Physics / Graphics / Procedural Animation / Visuals

[AllenChou.net](http://AllenChou.net)

MingLun.Chou@gmail.com

## Work Experience

### Game Programmer, Naughty Dog

5/2014 – Present

- ♦ Gameplay programming.
- ♦ Behavioral AI for buddies and enemies.

### Game Developer Intern, Uber Entertainment

5/2013 – 8/2013

- ♦ In-game planetary & celestial cameras, with view recall and transition.
- ♦ Procedural planet generation:  
terrain noise, constructive solid geometry brush projection & placement,  
water flow, and various distance field calculation on a perturbed sphere.

### Technical Writer for ActiveTuts+ and GamedevTuts+, Envato

2010 – 2013

- ♦ Wrote tutorials on particle effects with sub-frame interpolation.
- ♦ Wrote articles on design patterns, and interactive system design.

### ActionScript Programmer Intern, Medialand, Taiwan

7/2009 – 8/2009

- ♦ Developed a 3D billboard engine and a particle engine.

## DigiPen Student Team Project

### Plume

9/2013 – Present

- ♦ Component-based game engine architecture.
- ♦ 2D & 3D constraint-based rigid body physics.

### Whispers of the Goddess

9/2012 – 4/2013

- ♦ Game asset hot-swapping, including textures, shaders, and particle effects.
- ♦ Text rendering engine.
- ♦ In-game resource management system.

### Photon Bunny

12/2011 – 4/2012

- ♦ Software triangle rasterizer with texture mapping.
- ♦ 2D dynamic shadow and normal mapping in software.
- ♦ Implemented object-oriented structures in strict ANSI C.

### AstroBunny

9/2011 – 12/2011

- ♦ Gameplay programming: game mechanics, camera, and UI framework.
- ♦ 2D collision detection.
- ♦ All concept art and art assets.

## Personal Projects

### Rusher Game Engine

10/2011 – 7/2014

- ♦ Metadata-based dependency injection.
- ♦ Action framework that supports composite and asynchronous actions.

### Stardust Particle Engine

8/2009 – 7/2014

- ♦ 2D & 3D particle effects.
- ♦ Virtualized particle initializer and action classes that allow further extensions.

## Education

### DigiPen Institute of Technology, Redmond, WA

9/2011 – 4/2014

Bachelor of Science in Computer Science in Real-Time Interactive Simulation

### National Taiwan University, Taipei, Taiwan

9/2006 – 6/2010

Bachelor's Degree in Electrical Engineering

## Technical Skills

Rigid Body Physics  
Constraint-Based Physics  
Graphics Programming  
Procedural Animation  
Skeletal Animation  
Visual Feedback Design  
Visual Transition Design  
UI Programming  
Particle Effects  
Gameplay Programming  
Game AI Programming  
Game Engine Architecture

## Math & Physics Skills

3D Math  
Linear Algebra  
Combinatorics  
Calculus  
Newtonian Dynamics  
Lagrangian Mechanics

## Programming Languages

C / C++  
HLSL / GLSL / AGAL  
ActionScript  
Java  
MATLAB