



# Jack TsungYu Tsai

## Software Engineer

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## OBJECTIVE

To obtain a fulltime position as Software Engineer where I will contribute my skills and cross-functional experience to the fullest

## EMPLOYMENT

- LOOT Interactive, LLC** (Los Angeles, CA) Summer 2015  
*Software Engineer*
- Game porting from PC to Console (PS4, PS Vita, Xbox)
  - Problem solving in game features altering on multiple platforms
  - Fast-paced teamwork with producers, technical artists and QAs
- Next Animation Studio, Media Lab** (Taipei, Taiwan) Oct. 2009 - Jul. 2014  
*R&D Engineer*
- Mobile apps development in Unity for 3d interactive animation and augmented reality
  - Augmented reality system for the real-time interactive animation in TV news
  - One of 4-man research team for the in-house game engine development with DirectX API
  - Realistic facial simulation system developed for production pipeline with motion capture data
  - Cartoon effects implemented in shaders and in-house engine with acceleration of Multithread
  - Deferred rendering and BSP-tree system to boost rendering performance of the in-house tools
  - Maya plugin development of character rigging and animating for the efficiency improvement

## PROJECTS

- Architect, ETC** (San Francisco, CA) Spring 2016  
*Lead Programmer*
- Developing augmented reality application for iOS using Structure Sensor by Occipital
  - 3D scanning for reconstruction and motion tracking in Objective-C, OpenGL ES, Xcode
- Faceless, ETC** (San Francisco, CA) Fall 2015  
*Gameplay Programmer*
- Design a hidden object game for Electronic Arts on the Xfinity Games connected TV platform
  - Client-server communication between TV and mobile devices in Unity, CSS, JSON, HTML5
  - Interactive mechanic design and integration on different mobile devices (iOS/Android)
- Hypnos, ETC** (Pittsburgh, PA) Spring 2015  
*Programmer / Technical Director*
- Created an immersive 360-degree virtual reality experience
  - Implemented in Unity, Oculus Rift, Gear VR, GoPro
  - Technical problem solving in frame rate of video playback
  - VFX Tool development and interactive mechanic design of the hybrid scene
- Building Virtual Worlds, ETC** (Pittsburgh, PA) Fall 2014  
*Game Designer / Co-producer*
- Five games worked with different small teams (1-3 weeks/ each)
  - Implemented in Unity, PS Move, Kinect, Oculus Rift
  - Technical problem solving in game mechanic and platform integration
  - Game level design, artwork integration and shader coding

## EDUCATION

- Carnegie Mellon University, Entertainment Technology Center (ETC)** (Pittsburgh, PA) May 2016  
Master of Entertainment Technology  
Coursework: Building Virtually Worlds, Game Design, Entrepreneurship in Entertainment Technology
- National Taiwan University** (Taipei, Taiwan) Jun. 2008  
Master of Computer Science & Information Engineering  
*Graphics research group, Communication and Multimedia Lab*  
Coursework: Computer Graphics, Real-time Rendering, Virtual Reality
- National Chung-Hsing University** (Taichung, Taiwan) Jun. 2006  
Bachelor of Computer Science  
Coursework: Algorithm, Data Structure, Programming Language, OOP

## SKILLS

- Programming** C#, C/C++, Python, JAVA, GLSL, HLSL, MEL, MAXScript, Objective-C, Cocos 2D, CUDA, HTML5, CSS, JSON  
**SDK** Maya API, 3ds Max SDK, Move.me SDK, Oculus SDK, Kinect SDK, V-Ray  
**Tools** Unity, Microsoft Visual Studio, Xcode, Maya, 3ds Max, MATLAB, OpenGL, OpenCV, Photoshop, After Effects