Chuan-Chin Lai | Danny

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OBJECTIVE: Internship – Software Engineer in Game Development/Animation/Computer Graphics

TECHNICAL SKILLS

- C/C++
- Python
- Unity Engine (C#)
- Unreal Engine 4
- HTML
- JavaScript
- Physics
- Mathematics
- Git

SELECTED PROJECTS

Strand (PC) *Nov. 2016*
- 1st Person, 3D experiential horror game built in **Unity**
- Worked as a software engineer in a 12 people team
- Designed and implemented codes for Game Objects and Event System

Heap Manager (PC) *Oct. 2016*
- Designed and implemented a Memory Allocator in C++ for memory management (Personal Project)
- Supported Fixed-size Allocator, which is faster than regular allocator
- Overloaded New and Delete Operator

Fragmentation (PC) *Sept. 2016*
- 2D physics based platform game built in **Python**
- Worked as a software engineer in a 6 people team
- Designed and implemented codes for Game Physics and Camera System

Xmas BASH (PC) *Sept. 2016*
- 2D arcade game built in **HTML** and **JavaScript**
- Worked as a software engineer in a 6 people team
- Designed and implemented codes for 2D Collision Detection
- Designed and implemented tools for managing Game Parameters

2D Game Engine (PC) *Jan. 2016*
- Reusable codes built in **C++** and **SDL** for 2D game development (Personal Project)
- Designed and implemented components of the engine, including Game Loop, 2D Image Renderer and Scene Manager

WORK EXPERIENCE

Research Assistant, *Academia Sinica Institute of Astronomy and Astrophysics* *Oct. 2014 – Oct. 2015*
- Designed and implemented image search tools in **Python** for *Subaru Telescope – HSC database*
- Published a paper for astrophysics in *The Astrophysical Journal*

Summer Research Intern, *Academia Sinica Institute of Astronomy and Astrophysics* *Summer 2011*
- Designed and implemented data visualization tools with **C/C++** and **PLplot** for creating scientific plots
- Designed and implemented a high-speed calculator in **C++** for scientific computing
- Worked as a part-time research assistant after the internship ends

Teaching Assistant, *Dept. of Physics, National Kaohsiung Normal University* *Feb. 2011 – July 2011*
- Prepared materials for professor and students for use in lab sessions
- Assisted professor in answering questions and resolving issues during the laboratory

Summer Research Intern, *Dept. of Earth Sciences, National Taiwan Normal University* *Summer 2010*
- Designed and implemented data analysis tools in **C/C++** for astronomy research
- Processed a variety of astronomy data (NED, SDSS) on **Linux**

PUBLICATIONS

Can We Detect the Color–Density Relation with Photometric Redshifts?
- **Lai, C.-C.**, Lin, L., Jian, H.-Y., et al, *The Astrophysical Journal, Volume 825, Issue 1, article id. 40, pp. (2016)*

EDUCATION

Master of Entertainment Arts & Engineering in Game Engineering
University of Utah, Salt Lake City, UT, U.S. *2016 – Present*

Master of Science in Astrophysics
National Taiwan University, Taipei, Taiwan *2011 – 2013*

Bachelor of Science in Physics
National Kaohsiung Normal University, Kaohsiung, Taiwan *2007 – 2011*
- **Fo Guang Shan Scholarship**, *award for top 3 students achieved a 3.7 GPA or above*
- **Moral Education Prize**, *1st valedictorian, represented the class to receive the graduate certification from the president*