

Chuan-Chin Lai

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📷 ChuanChinLai

🌐 www.chuanchinlai.com

TECHNICAL SKILLS

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

SELECTED PROJECTS

Project Turing – 50-Second Trailer – 50-Second Tool Demo

Feb. 2017 – Present

- C#, Unity, PC Game
- Worked as a software engineer in a 14 people team
- Reduced average testing time by 70% and increased the team's productivity
- Developed user-friendly tools for game designers and QA testers
- Designed and implemented a level editor and a spawning toolkit with custom editors in Unity

Heap Manager – GitHub Link

Oct. 2016

- C/C++, Memory Management
- Reduced average dynamic allocation time by 60%
- Designed and implemented the efficient heap manager with memory pools and custom memory allocators
- Provided fixed-size allocators for quick allocations and garbage collection for memory fragmentation

Fragmentation (PC) – 43-Second Demo

Sept. 2016

- Python, Physics, PC Game
- Worked as a software engineer in a 6 people team
- Improved player experience by developing more realistic gameplay features
- Added physics related functions, including 2D collision detection and spring oscillation
- Designed and implemented the 2D collision detection with AABB collision
- Designed and implemented the spring oscillation with physics simulations

Xmas BASH (PC) – 30-Second Trailer – Playable Demo

Sept. 2016

- HTML, JavaScript, Web Game
- Worked as a software engineer in a 6 people team
- Created the rapid prototype in 20 hours and showed the team's concept of gameplay features
- Designed and implemented gameplay related functions based on the team's plan and requirements

WORK EXPERIENCE

Summer Intern, Immersed Games, Gainesville, FL

Jun. 2017 – Aug. 2017

- C/C++, Unreal Engine, PC Game, MMORPG
- Successfully fixed an overflow bug by writing unit tests for server and client debugging
- Optimized function and class interfaces to avoid the bug while programming
- Optimized camera related functions and reduced its memory usage by 30%

Research Assistant, Academia Sinica, Taipei, Taiwan

Oct. 2014 – Oct. 2015

- C/C++, Python, Linux, Parallel Programming
- Reduced execution time from days to hours by using a computer cluster
- Designed and implemented a high performance computing toolkit with parallel computing APIs
- Designed and implemented data processing and visualization pipelines with scientific computing APIs
- Solved an astrophysical problem and published research findings in [The Astrophysical Journal](#)

EDUCATION

Master of Entertainment Arts & Engineering in Game Engineering

The University of Utah, Salt Lake City, UT

2016 – Present

- Teaching Assistant, C++ for Game Programming (2017)

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