River Liu
#AI programmer

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Education

Carnegie Mellon University (CMU)
Entertainment Technology Center
Aug 2016 - May 2018
- Master of Entertainment Technology

Chinese University of Hong Kong
Aug 2013 - May 2015
- Master of Arts in History (part-time)

City University of Hong Kong
Aug 2007 - Jul 2011
- Bachelor of Electronic Engineering
- First class honors
- First class scholarship

Skills

Programming languages
C++, C#, JavaScript, Java, PHP

Platforms
Oculus Rift, HTC Vive, DayDream, Google Tango, AR Core, HoloLens, Leap Motion, iOS/Android

Tools
Visual Studio, Xcode, SVN, Perforce, Git, Unity, Unreal Engine 4

Interests

Game AI, Fast prototyping, Game engine, 3D math, System design, Procedural generation, Open-world, Action-adventure

Honors

AIAS Randy Pausch Scholarship '17
IGDA Eric Dybsand Memorial AI Scholarship '18

Work Experience

Schell Games, Pittsburgh　　　　　Aug 2017 - Dec 2017
Engineering Intern
- Used new AR SDKs to prototype games for a major client
- Created prototypes for FPS/action, RTS, survival and party games
- Worked on architecture, gameplay, 3D math, path-finding and AI in Unity/C#

Entertainment Technology Center, Pittsburgh　Aug 2017 - Dec 2017
Programming Teaching Assistant
- Taught game programming, Unity and platform workshops
- Guided and assisted students in rapid prototyping, OOD and problem solving

Cortina Productions, Washington DC　　Jun 2017 - Aug 2017
Programming Intern
- Developed and delivered interactive components for a current exhibition
- Worked on architecture, Unity wrappers, gameplay and UI in Unity

RFA Ltd, Hong Kong　　　　　　　Apr 2015 - Jun 2016
Server Developer
- Built PHP servers for a social networking iOS app--*MGIA*--shipped in Feb 2016
- Developed a multi-player iOS casino game--*Duobao*--shipped in Feb 2016
- Implemented database, instant messaging, multi-player control, gameplay

Trumptech Ltd, Hong Kong　　　　　Apr 2013 - Apr 2015
Full-stack Web Developer
- Built commercial websites for clients with PHP/Java/JQuery/HTML
- Developed front and backend, including database, servers, CMS

City University of Hong Kong　　　　Sep 2011 - Apr 2013
Research Assistant
- Conducted researches on image processing algorithms and neural networks
- Programmed in Matlab and C

Academic Projects

Oculus Story VR, ETC - San Francisco　Jan 2017 - May 2017
Lead Programmer
- Developed and delivered an interactive VR storytelling game--*Mystique*
- Created 4 playable prototypes and 10 control schemes for Oculus Rift and Touch
- Designed system, implemented gameplay, AI and path-finding in Unity
- Created underwater visual effects with Cg

Building Virtual Worlds, ETC - Pittsburgh　Aug 2016 - Dec 2016
Lead Programmer
- Created 5 immersive worlds with teams of 5 in 2 week cycles
- Worked with Oculus, Leap Motion, HTC Vive, Anki - Cozmo, CAVE, Makey Makey
- Programmed gameplay, hand gesture recognition, multiplayer, network, server
- *Havoc*--experience featured in BVW festival '16 and specially mentioned in Jesse Schell's talk at GDC '17

Personal Projects

The AI Project　　　　　　　　　Sep 2017 - May 2018
Solo Developer
- Studied exisiting game AI techniques and prototyped AI systems in Unreal/C++
- Re-engineered and simulated AI from Last of Us, GTA V, etc
- Working on 3D math, h-fsm, behavior tree, utility, planner, combat, character, perception, nav mesh and path-finding
- Developing an UE4 plugin for general purpose game AI

Tuesday Night Games　　　　　　　Feb 2017 - Aug 2017
Solo Developer
- Created 8 games exploring different genres, in 1 week cycles
- Demoed at Winter Play Game Expo, Demo & Play and other game showcases
- Gave a talk on rapid prototyping and iteration at Women In Games '17
- Previous games were distributed on Game Jolt, itch.io

Game Jams and Competitions　　　　　2017 - 2018
Programmer
- Developed an Android game--*Surfing the Great Wave*--for the Global Game Jam and won the first prize at Google Launchpad, San Francisco
- Created games for One Game a Month, Game4Change, IndieCade '17