Jiayu Liu

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Software Engineer in Tools, Virtual Reality and Game Development. Experienced in C++ and C#.

EDUCATION

M.S. Game Science and Design, Northeastern University, Boston — Dec. 2017

B.S. in Computer and Cognitive Science, Xiamen University, China — July 2014

Academic Exchange in **Computer Science,** National Chiao-Tung University, Taiwan — Jun. 2012

Related Courses: C and C++ Programming, Data Structures, Algorithms, Computer Architectures, Machine Learning, Game AI, Computer Graphics, Building Game Engines, Eye-tracking Studies.

SKILLS

Languages: C/C++, C#, JavaScript, HTML5, Java/Android.
Solid skills in SDK and API Design and Development, Unity3D, VR, AR, Computer Vision.
Working Knowledge in Game Development and Virtual Reality.
Other: Git; OpenGL, Qt, Oculus Rift, Google VR, OpenVR, Leap Motion, Arduino, Eye-tracking; Maya.
Volunteer at GDC, SIGGRAPH, Boston FIG conferences.

EXPERIENCE

AR / VR Developer Intern | Tipping Point Media LLC — June 2017 – Aug. 2017
- Implemented features for Oculus VR and Vuforia AR projects in C#/Unity3D, including 3D graphics, physics interactions based on 3D math, spatial audio, UI, image post-processing, etc.
- Built multiple tools that facilitated the workflow, such as plugins that helped designers polish features.
- Solved a major problem on graphic shaders, which largely enhanced the application performance.

C++ Programmer, Designer | Fold It - Biochemistry Educational Game — Jan. 2017 – Apr. 2017
- Designed and implemented tutorials in C++ for new features in the game, which is played by 50,000 people.
- Extended the functionalities of the existing tutorial system structure and optimized C++ interfaces.

C# / Unity3D Programmer | Mad Science, NU Game Studio — Oct. 2015 – Sept. 2016
- Implemented gameplay and GUI features, deployed test cases and fixed bug issues.
- Created a module that updates customized assets in runtime using JSON serialization and design patterns.

PROJECTS

Sole Developer | Prototype4AR Augmented Reality Framework — Dec. 2016 - Present
- Designed the framework architecture and built from scratch in C++ and Open Source Computer Vision (OpenCV) libraries, targeting on PC and mobile (Android, iOS) platforms.
- Created APIs for users to build an AR app in a short time, including functionalities such as tracking real-world objects, drawing 2D/3D characters, specifying character movement patterns and interaction rules, etc.

Co-designer, C# / Unity3D Programmer | LeafVR — Nov. 2015, Aug. 2017
- Co-designed the narrative and unique mechanics for the game, and built the game with Google VR SDK.
- Improved graphics performance by implementing Object Pool and Factory Method design patterns.