Jiayu Liu

liu.jiayu@husky.neu.edu | www.jiayuliu.me | (+1) 857-222-9384

EDUCATION

Northeastern University   Boston, MA
M.S. in Game Science and Design (GPA: 3.92/4.00)   Sept. 2015 – Expected May 2017
- Courses: Building Game Engines, Computer Graphics, Game Artificial Intelligence, Level Design, Game Design and Analysis

Xiamen University   Xiamen, P.R. China
B.S. in Cognitive Science (GPA: 83/100)   Sept. 2010 – July 2014
- Courses: Calculus, Linear Algebra, C and C++ Programming, Data Structures, Algorithms, Operating Systems, Computer Networks, Computer Architectures, Software Engineering, Brain Science Foundation

National Chiao-Tung University   Hsinchu, Taiwan
Academic Exchange in Computer Science   Feb. 2012 – Jun. 2012
- Courses: Assembly Language, Electronics, Digital Logic, Numeric Analysis

EXPERIENCE

Research Assistant of MadScience project (C# game programming: http://www.northeastern.edu/madscience/)   Oct. 2015 - Present
NU Game Design Studio, Boston MA
- Built gameplay and UI functionalities for a 2D educational serious game MadScience based on C# and Unity
- Designed, prototyped and developed character creating tool and multi-world auto-generating tools such as poster generating system using user-defined scripts across scenes in runtime
- Established online court experiment scenarios, which were published as sub-project of MadScience and used by a local court
- Designed and performed test cases, created JSON files to identify and fix bug issues

Prototype Intern of TeaMail – Team Collaboration Web Application (HTML/CSS and Bootstrap)   July 2013 – Aug. 2013
Liangzhi Information Technology Corp., Shanghai, P.R. China
- Created the web prototype in HTML/CSS and Bootstrap framework in agile development fashion
- Documented the development and product information for the prototype

PROJECTS

Designer, Programmer | ColorRun Level Editor (C#)   Apr. 2016
- Developed a Unity game embedded with a level editor for customizing objects and tuning gameplay difficulties
- Applied UX concepts and implemented user-friendly interfaces of the test / editor module

Programmer | ZombieMaze (C#, AI algorithms)   Mar. 2016
- It is a game built in Unity about player escaping from an auto-generated maze with zombies potentially appearing
- Devised a top-down algorithm for maze generation, which was inspired from A* pathfinding and Breadth First Search methods
- Implemented the Player State Machine to auto-tune the level difficulty by adjusting the zombie's spawn number and location

Designer, Programmer | Leaf (Virtual Reality project in C# and Google Cardboard API)   Nov. 2015
- Designed a Cardboard VR game in Unity using audio as an unconventional gameplay mechanic
- Built a program module that converts audio input to multiple levels of controls, which is also friendly with graphics framerate
- Worked on the camera angle and physics interactions to provide a realistic experience of moving and control
- Tested successfully with multiple Android versions

Programmer | Automated Scene Text Annotation and Evaluation System (C++, MFC and Computer Vision)   Apr. 2014 – May 2014
- Built a performance evaluating / testing tool for rating the accuracy of different computer vision – text detection algorithms
- Implemented in C++ for the core algorithm and MFC for the software interfaces
- The system is automated which uses input of text- and non-text-included images and outputs with rating on the current algorithm
- The system was a part of a computer vision research funded by **National Natural Science Funds of China**

SKILLS

Programming Languages: C, C++, C#, HTML5/CSS3, R; Bootstrap, Jekyll, MFC frameworks
Platforms and Tools: MS Visual Studio 2015, Git, Unity3D, Unreal 4, Sublime Text, RStudio; Arduino, Leap Motion, Oculus Rift
Hobbies: Piano, Hiphop dance, Photography, Hiking, Volunteering (ACM SIGGRAPH Asia 2014)