# Jiayu Liu

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

Available for Summer Internship 2017 and Full-time Starting from Jan. 2018.

## EDUCATION

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

**B.S. in 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, Algorithms, Computer Systems, Computer Networks, Machine Learning, Game AI, Computer Graphics, Building Game Engines, Eye-tracking Studies, Sound Design.

## SKILLS

**Programming Languages**: C++, C, C#, HTML5, JavaScript, Java/Android.
**Development Skills**: Git, Software Engineering, Game Development with Unity3D and Unreal 4, Maya, Qt, Virtual Reality Development with Oculus, 2D/3D Graphics Programming with OpenGL, Android, Front-end Development.

## PROJECTS

**Independent Developer | Prototype4AR Augmented Reality (AR) Framework** — Dec. 2016 - Present
- Designed the architecture and functionalities of the framework, and built from scratch in C++ with Open Source Computer Vision(OpenCV) libraries.
- Encapsulated low-level functions to readable and maintainable APIs that help users build desktop/mobile AR applications conveniently, including tracking real-world objects through real-time video streams, drawing 2D/3D sprites, specifying movement patterns and interaction rules, etc.

**Independent Developer | Emoji Peeps 3D Animated Scene (OpenGL, Qt)** — Oct. 2016
- Constructed 3D facial models with pre-defined shapes, cylinders and boxes, in XML hierarchically.
- Implemented functions in C++/Qt that parse the XML file, apply shaders and lighting, and animate the assets along defined paths and patterns in the 3D space, using OpenGL/GL Mathematics functions.

**Programmer | Text Detection Evaluation System** — Apr. 2014 – May 2014
- Designed and implemented an evaluation method to rate the results of text detection algorithms.
- Built a system in C++ that processes more than 1000 scene text images, visualizes the detection results, reads the data as well as the ground truth information and writes the evaluation output to the GUI.

## EXPERIENCE

**Programmer | MadScience 2D Educational Game** — Sept. 2015 – Sept. 2016
- Implemented gameplay logic and UI functionalities in C# with Unity3D.
- Created a poster generating tool that updates player-defined assets across scenes in runtime.
- Designed, performed test cases and generated JSON files to identify and fix bug issues.

**Programmer | TeaMail** — July - August 2013
- Established the front-end prototype of TeaMail, a web-based team collaboration tool, including task list, tags and discussion modules, using HTML/CSS, JavaScript and Bootstrap framework.