Yijie Guo

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Education

University of Utah Bachelor of Science in Computer Science **Major GPA: 4.00** May.2019
- Major Course: Machine Learning, Data Mining, Computer Graphics, Image Processing, etc

Shanghai University Bachelor in Economics Jul.2011

Skills

- **Programming Language:** C++ (5 years), C# (2 years), Matlab, Python, JavaScript (1 year)
- **Tools:** Microsoft Visual Studio (5 years), XCode (3 years), Cocos2d-x, Unit3D (2 years), Box2D, Unreal4, TortoiseSVN, GitHub, Android SDK, NDK, Apache Ant, etc. (1 year)

Work

Research Assistant **School of Computing, University of Utah** **Utah** **May.2018-Present**
- Focused on the Markov Logic Network (MLN) for calculating most possible worlds with given conditions.
- Calculated Probabilistic Logic and Satisfaction using the Nilsson Method.
- Designed video analysis, object extracting and feature producing algorithm from videos.

Game Engine Programmer **Immortal Studio** **Shanghai** **Dec.2013-Apr.2015**
- Programmed game engine modules, including physics simulations, graphics, music and sound module.
- Developed cross-platform solution, AI behavior, 2D&3D Animation module, etc.
- Worked on mobile games, including gameplay, GUI, behavior modules, debugging, makefiles, etc.

Real Estate Developing Assistant **Huangpu District of Shanghai Government** **Shanghai** **Mar.2011-Sept.2012**
- Involved in the government's social welfare program to provide affordable housing for low-incoming families

Experience

Research Assistant **Breccia** **University of Utah** **May. 2018 – Present**
- Replicated results of 2 Markov Logic Network researches, the Tuffy MLN and the Prac MLN
- Calculated sentences' probabilities of the Breccia Knowledge Bases using the Nilsson Method.
- Identified moving objects and extracted objects' features in videos, like color and size for cars, buses, trucks, etc.
- Converted object features to feature vectors for decision trees used in the Breccia.
- Worked in a team of 4 members led by Prof. Thomas C. Henderson.

Senior Programmer **Mobile Game Engine** **Immortal Studio** **Jul. 2014 – Apr. 2015**
- Programmed for the rendering module with OpenGL and shaders.
- Built the collision detection module (Based on Box2d) and the AI behavior tree
- Designed events dispatcher module (Listener Pattern) and debugged the cross-platform module.
- Worked in a team of 5 programmers.

Chief Client Programmer **Unannounced Mobile Game** **Immortal Studio** **Nov. 2014 – Mar. 2015**
- Designed the client structure, the combat module, the behavior module, including AIs, user inputs, etc.
- Coded the skill module, including active skills, passive. skills, skill effects, skill animations.
- Implemented the character module, including spine animations, character FSMs, etc.
- Led a 3-programmer team and cooperated with 2 designers, 3 artists.

Senior Client Programmer **Bloodline (Mobile Game)** **Immortal Studio** **Dec. 2013 – Nov. 2014**
- Implemented the guild, the guild war module and the In-game help documentation module.
- Upgraded the music and sound module, debugged the UI module and the customized memory pool module.
- Worked in the team of 10 programmers, cooperated with 4 designers, 1 art outsourcing team, 1 operation team.
- This game is still available now on Apple Store and Google Play in NA.

Activities and Rewards:

Game Developing Instructor at Shanghai Tongji High School (Volunteer) **Jan. 2015 – Mar. 2015**
- Led a group of 5 high school students and taught them game developing using Unity3D

Volunteer at 2010 Shanghai EXPO **Jun. 2010 – Jul. 2010**
- Awarded the medal of **Excellent Volunteer Team** (Top 10%) and the medal of **Star Volunteer** (Top 10%)

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I am Yijie (EJay) Guo, a second bachelor degree student major in computer science. I have been a game programmer and a team player for years and have successfully produced several games released in the market. Currently, I am working on video analysis for Prof. Thomas C. Henderson as a research assistant.

I am interested in Computer Graphics and Artificial Intelligence. For Computer Graphics, I have been working on games for years and tried my VR and AR projects during the college period. Meanwhile, for Artificial Intelligence, I have seen and learned many projects, where AIs could develop unexpected and amazing solutions for many tough problems, and I believe AIs could be the most powerful assistants while investing the least amount of resources. For example, the most recent announcement of the new graphic card series, the Nvidia RTX series, could provide superb quality raytracing CGIs in real-time, which is benefited greatly from the Machine Learning techniques. Therefore, I would devote myself into Computer Graphics and Artificial Intelligence, in order to break the wall between the reality and the virtual world.

I have finished the CS4600 Computer Graphics and the CS4640 Image processing for my interests in Computer Graphics and learned many edge-cutting techniques in the CS5140 Data Mining. Also, I am taking the CS 5350 Machine Learning and will take CS 4300 Artificial Intelligence in the next spring.

I could commit 30-40 hours weekly for this capstone project, such that this project would be one of the most magnificent projects among the class and also my most incredible project for my entire college life, because I might not have chances to work on something, which could be such creative and totally controlled by myself in the future.