Roy Guo

Tel: +1 (858) 257-7046
Email: royguo97@gmail.com
LinkedIn: glfeng
Website: ultroy.com
Github: roystormstout

Education

Master of Engineering, Computer Science, UC Berkeley, Focus: Computer Graphics & Vision   08/2019-05/2020

Bachelor of Science, Computer Science, UC San Diego, Honor: Cum Laude   09/2015-06/2019

Experience

Software Engineering Intern, *TuSimple Technology,* San Diego, CA   10/2017-03/2018
- Languages & Frameworks: ReactJS, MongoDB, Python, JavaScript, HTML/CSS, Github
- Simulated truck movement for autonomous driving and optimized the collision detection algorithm
- Designed a web tool for the truck movement simulation using ReactJS and Redux
- Built a MongoDB database to store simulation results

Machine Learning Intern, *Microsoft Research Asia,* Beijing, China   06/2017-08/2017
- Languages & Frameworks: TensorFlow, Python, PyQt
- Worked on Mahjong AI, researched on machine learning approaches used in information-asymmetric games
- Using Qt, built a game log visualizer to trace model's decision making process

Projects

Gameplay & Front-end Lead, *KillStreak,* Multiplayer Online Battle Arena Game   03/2019-06/2019
- Languages & Frameworks: C++, OpenGL, Visual Studio, Github
- Constructed a efficient physics engine with mesh collision to optimize server-tick rate
- Developed mouse click control for character movement, transforming a point from screen space to world space
- Implemented rendering prediction to avoid glitches caused by lower server-tick rate
- Designed and implemented the user interfaces, such as skill indicators and prepare-phase operations
- Designed game mechanics and systems, including characters and in-game economy

Game Programmer, *A Happy Ending,* Virtual Reality First Person Horror Game   01/2019-03/2019
- Languages & Frameworks: C#, Unity 3D, Oculus Tool Kit
- The winner of "Most Polished Game" and "Best Sound Effects" awards in the all-campus VR game competition
- Set up player control system using the Oculus controllers
- Implemented different environment objects interactions, including door triggers, which used linear interpolation
- Designed the storyline and gameplay mechanics, including scripts and descriptions for special effects

Team Lead, *PeterBook,* Secured Multiplatform Social Network   03/2018-06/2018
- Languages & Frameworks: JavaScript, Unix, Jenkins, React, Nginx, Flask, Firebase, NodeJS, Google KMS API
- As the team lead, responsible for managing progress, and holding weekly meeting with team members
- Set up GitHub hook and Jenkins as the conveyor belt for automatic testing and deployment
- Implemented data encryption for all data in the private real-time chatting sessions using SHA-256 algorithm

Research

A Graph-based Framework to Bridge Movies and Synopses, *Oral Presentation at ICCV 2019*   07/2018-present
- Constructed a dataset called Movie Synopses Associations (MSA) over 328 movies
- Developed a framework to perform matching between movie segments and synopsis paragraphs
- Using React and Flask, built and designed a cross-platform tool for movie-related labeling jobs
- Using motion energy model to pre-process raw movie data and movie info into segments and keyframes

Languages & Frameworks

Proficient: C, Java, OCaml, Andriod

Intermediate: C++, C#, HTML, CSS, Javascript

Frameworks: React, MongoDB, Firebase, OpenGL, Unity3D, Oculus, JQuery, MongoDB, Unix, Jenkins, Nginx, Flask