# Lihang Liu

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## EDUCATION BACKGROUND

**Northwestern University** **09/2019-Present**

- Program: Master of Computer Science

**South China University of Technology (SCUT)** **09/2015-07/2019**

- Program: Bachelor of Engineering in Computer Science and Technology (*English Teaching Innovation Class*)

## PROFESSIONAL SKILLS

**Interest**: Software development, Game Development

**Graphics Library**: OpenGL, WebGL

**Programming Language**: C++, Python, Java, JavaScript, SQL

**Game Engine**: Unity3D

## PROFESSIONAL EXPERIENCE

**Software Engineer Intern(Tencent, Shenzhen)** **07/2018-08/2018**

- Designed and accomplished Unity3D tool which helped artists work more efficient;
- Participated in the Supernova Program as main programmer;
- Discussed with group members to determine the game topic of the Supernova Program;
- Took charge of the programming work and the implementation of various game modules;
- Won the first place in the mid-term review and a good place in the final review.

## PROJECT EXPERIENCE

**Design of a Mini Game***, Jointly held by SCUT and Tencent Institute of Games* **09/2017-12/2017**

- Acted as the project manager and took charge of the main programming work and progress supervision;
- Created several game levels with Unity3D;
- Attended the interview held by the company and got the intern out of over 70 students.

**Implementation of a Web Server and a Web Client** **01/2020-02/2020**

- Implemented a HTTP client and a HTTP server using TCP socket in Python;
- The server can handle multiple connections at the same time without blocking;
- The client can deal with different HTTP response code such as 404, 301, 302, etc.

**Design of a Reliable Streaming Transport Protocol on top of UDP** **02/2020-03/2020**

- Designed and implemented a simplified TCP protocol using UDP in Python;
- Managed to handle packets chunking, reordering, loss and data corruption errors. Packets are guaranteed to be delivered to the application in the correct order without any damaged data.

**Implementation of a Realistic 3D Graphics Program using WebGL** **11/2019-12/2019**

- Wrote a WebGL program which allows users to explore the 3D scene via user interaction;
- Made the scene more realistic by adopting different shading and lighting algorithms in shader;
- Users can interact with the program to see different shading and lighting effects.

**Design and Implement of a Board Game AI based on Minimax and $\alpha-\beta$ Pruning** **02/2020-03/2020**

- Implemented a board game AI which can play various board games based on minimax algorithm using Python;
- Used $\alpha-\beta$ pruning to reduce search time.