

HAORAN LIANG, gameplay programming internship

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TECHNICAL SKILLS

- Programming languages: C++, C#, Java, Python, HTML5/CSS/JavaScript, TypeScript, SQL
- Framework: Git, React, Redux, AngularJS, Nodejs, Bootstrap, Semantic-UI, Flask
- Software: Unity, Unreal Engine

EDUCATION

Carnegie Mellon University – Entertainment Technology Center *Pittsburgh, PA* expected May 2022

- Master of Entertainment Technology

Rice University *Houston, TX* Aug 2018 - Dec 2019

- Master of Computer Science

University of California, Santa Cruz *Santa Cruz, CA* Jul 2014 - Mar 2018

- B.S in Computer Science, Cum Laude Honor

Relevant Coursework: Visual Story, Foundations of Game Design, Algorithmic Robotics

WORK EXPERIENCE

Geophysical Technology, Inc. May 2019 - Aug 2019

Software Engineer Intern Bellaire, TX

Pycom Board Tracking Device

- Added features to a Pycom based application to receive and store Bluetooth Low Energy advertising packets for synchronization with external databases through Wi-Fi connection.
- Implemented a MicroPython library enabling devices to fetch and parse geolocation and time data from GPS chips.
- Designed and integrated a new start-up state for the system to acquire data while simultaneously connecting with the external database, reducing ~3 minutes of configuration time.
- Optimized device battery usage by implementing standby mode, saving ~17% of current flow based on bench test.

Database Job Service Application

- Created custom language bindings with JNA to make use of an open-source C library within Java based software.
- Constructed a socket communication module by wrapping native Java structures and implementing scalability protocols functions for application back-end use, and tested data offloading on ~200 seismic node devices.
- Applied a zero-copy pattern to the multi-thread message receive procedures, reducing ~10% time consumption.

ACADEMIC PROJECTS

Building Virtual Worlds Fall 2020

Programmer ETC

- Worked in scope of 5 team with 2 programmers, 2 artists and 1 sound designer to build 5 different virtual worlds in one to three weeks. Three virtual worlds are selected for the ETC 2020 Fall Festival.
- Performed higher level communication skills and collaborated across different roles to ensure high quality team works.
- Learned and used **Unity** to implement game manager, dialogue system, basic AI pathfinding and more features.
- Contributed to game level design and game background story development.
- Utilized new technologies such as **Air-console** and **Photon** to build local party game and online multi-player game.

Ricebook Sep 2018 - Nov 2018

MEAN Stack Web Developer Houston, TX

- Implemented a social website allowing Rice students to share their posts with pictures and comment to others' posts.
- Used **Angular6** as Front-end framework, and **Bootstrap** as user interface design, with **Karma** and **e2e** for unit testing.
- Designed and constructed a RESTful API with **Node.js** and **Express.js** framework to interact with **MongoDB**.
- Implemented support login function with Google **OAuth** and linked to Facebook providing merge with original account.

PERSONAL PROJECTS

Esports Club Game Mod Apr 2019 – May 2019

Houston, TX

- Implemented an esports team mod for the steam game “Esports Club” using Unity.
- Utilized **Python** crawlers with **Beautiful Soup** module to retrieve esports club team information and player stats.
- Published game mod on Steam Workshop and has over 1500 subscribers in total.