

# YUXUAN LIU

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## Software Engineer

### Project Management / Feature Development / Front-End / Game Development

Skilled and bilingual **Software Engineer** respected for handling front-end engineering and gameplay development, including success with an industry-leading company (Tencent). Proficient in system architecture, object-oriented programming, design principles, content development, project management, and technical problem-solving.

### Core Competencies

Software Engineering / Project Management / Object-Oriented Programming / Game Development / Team Collaboration / Feature Implementation / Front-End / Performance & Scalability / Problem-Solving / Communication

## PROFESSIONAL EXPERIENCE

### BitReel

Boston, USA

#### Software Engineer

2019 – Present

- Established a **microservice-based** 3D showroom platform, developed and maintained the 3D showroom application. Implemented more than **10 core features** with **BabylonJS Engine and WebXR** which received outstanding (4.8 out of 5) rating based on the clients' survey.
- Improved methods for handle computation-heavy tasks like raycasting and collision check with **multi-threads in Web Worker**. Optimized the render loop and render call under strict deadlines and heavy workload, increasing product performance(fps) on low-end devices over **80%**.
- Acted as the principal liaison with the design team, implemented cross platform and reusable front-end UI components with **React-Redux** and becoming the go-to resource for all web-based applications in company.
- Established scalable **CI/CD pipeline with Jenkins and Amazon Web Services**, simplified the deployment process. Improved the reliability and the performance of the application with **CDN** (content delivery network).

### Tencent

Shen Zhen, China

#### Technical Designer Intern

2019

- Wrote reliable analysis reports comparing economic systems and developing systems in MMORPG games, uncovering avenues to reduce average project cycle times and increase production quality.
- Produced combat script for a new dungeon (5 levels), including core mechanic, boss skills, and fighting dynamic. Configured the combat script with in-house AI decision tool in **Unity**. The dungeon then published with a special seasonal event with more than **30K players** participated.

## SELECTED PROJECT

### Model Viewer

2021 - 2022

- Led the development of a web-based model viewer application, Improved the model loading speed over 50% with high quality texture on mobile devices and PC under public network by **utilizing LODs and KTX/KTX2 compressed texture**.
- Created corresponding comprehensive test system including unit tests and integration tests with **Mocha**, established **RESTful APIs** to support flexible customization down to single part and material.
- Reduced the memory cost around **20%** by implementing dynamic rendering.

**Other Projects** (See [Portfolio](#) for Details, Side Projects, and Publications):

"cARd" Mixed Reality Game (VR Multiplayer card game logic with Photon SDK in Unity)

AQI (Air Quality Index) Prediction Project (Data collection, front-end webpage & back-end server implementation)

Notorious Duo (Unity3D Game – 3D character logic, server setup, design concept, and project report)

## EDUCATION

**Northeastern University** – Master of Science, Game Science and Design (GPA: 3.83)

2020

**Beijing University of Technology** – Bachelor of Science, Software Engineering (GPA: 3.4)

2018

## ADDITIONAL CREDENTIALS

**Technical Skills:** JavaScript, C#, Java, Python, C++, HTML/CSS, React, Redux, Node.js, BabylonJS, ThreeJS, WebXR, Unit Test, AWS services, Jenkins, Jira, RESTful API, Microservice, Ant Design, Figma, Unity

**Languages:** English, Chinese