

YUXUAN LIU

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Software Engineer

Project Management / Feature Development / Full Stack / 3D Development

Skilled and bilingual **Software Engineer** respected for handling full-stack engineering and 3D development. Proficient in system architecture, object-oriented programming, design principles, 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

Senior Software Engineer

Boston, USA
2019 – Present

- Established the web-based single page 3D showroom application with **BabylonJS(JavaScript/Typescript)**, Implemented more than **10 core features** including **Colyseus** server for real-time multiplayer functionality and improved user engagement. Received outstanding (4.8 out of 5) rating based on the clients' survey.
- 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).
- Used **Test Driven Development**, refactored the **RESTful API** for Model Viewer using **Python, Django** Framework and **Docker**, improved the reliability, test coverage and speed by merging redundant endpoints.

Tencent

Technical Designer

Shen Zhen, China
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, including core mechanic, boss skills, and fighting dynamic. Configured the combat script with in-house AI decision tool in **Unity** and playtested with 30K+ players.

SELECTED PROJECT

Exploration 3D Website

2023

- Crafted an innovative 3D website utilizing cutting-edge technologies such as **ThreeJS** and **WebGL**, showcasing technical prowess and creativity.
- Engineered a bespoke particle system for rendering input models as single points, leveraging custom **GLSL shaders** to optimize performance, ensuring a consistent 60 FPS experience on mobile devices.
- Pioneered a tailored model loader using Web Workers for parallel processing, dramatically reducing loading times, and delivering an optimized user experience, even on low-speed internet connections.
- Designed and developed a dynamic blog backend infrastructure utilizing **Python, Django**. Leveraging **PostgreSQL** for efficient data management, ensuring scalable and efficient data management.

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, TypeScript, C#, Java, Python, C++, HTML/CSS, React, Redux, Node.js, BabylonJS, ThreeJS, WebGL, Unit Test, AWS services, Jenkins, Jira, RESTful API, Microservice, Ant Design, Figma, Unity

Languages: English, Chinese