Max Zhang

1175 Park Pl, San Mateo, CA   Phone: 424-268-0010   Email: max.plue.zhang@gmail.com

LinkedIn: www.linkedin.com/in/maxpluez/   Website: zhangmax.com/me (GitHub link inside)

Education

University of California, Los Angeles   expected June 2022

BS in Computer Science and Engineering with a Minor in Film, Television, and Digital Media

- GPA: 3.932
- Relevant Coursework: Software Construction, Computer Graphics, Web App, Algorithms, OS, etc

Technical Skills

Programming Languages: (proficient in) JavaScript, C++, C#, Python; (intermediate in) C, Bash, HTML, CSS, Mongo, SQL; (beginner in) Java

Computer Skills: Git, GitHub, REST, Remote Procedure Calls (RPC), AWS, JIRA, Docker, Unity, WebGL

Experiences

Software Engineering – Roblox / San Mateo   Aug 2022-Present

- Scaling voice chat infrastructure to support 3 million concurrent users;
- Supporting the infrastructure of face/avatar chat by implementing a multi-channel streaming backend;
- Redesigned critical path API workflow that reduced latency by 20% and CPU load by 30%;
- Overhauled alert automation tools (Slack App and GitHub Action) for smoother on-call experiences;

Software Engineering Intern – Roblox / remote   June 2021-Sep 2021

- Researched WebRTC protocol and evaluated possible methods of retrieving and processing audio streams;
- Developed moderation site with a React frontend with a .NET backend;
- Improved the speed and reliability of a distributed system using entity services and remote procedure calls;
- Led meetings when defining features and designing the scalable full-stack architecture with teammates.

Software Engineering Intern – UCLA CCLE / Los Angeles   June 2020-Sep 2020

- Built a codebase of 70+ JavaScript files using NodeJS and React for UCLA's new video resource center;
- Wrote 10+ Jest unit tests for both frontend components and backend services.

Computer Support Technician – UCLA Residential Life / Los Angeles, CA   Feb 2019-Apr 2020

- Maintained operating systems and hardware (hard drives, printers, etc) for hundreds of staff computers.

Selected Engineering Projects

Engineering Manager: *BruinBot* – UCLA DevX   2021-2022

- Designed and developed the full stack (React + Express) of an app for autonomous food delivery robots;
- Hosted web services, static contents, and databases using AWS ECS, AWS S3, and Firebase;
- Enabled automation commands from servers to bots through web sockets;
- Evaluated priorities to determine the most prominent features to develop as the engineering manager.

Game Dev Project: *Insurmountable* – UCLA Engineering   2022

- Engineered a 3D robot climbing game using TinyGraphics, a WebGL wrapper;
- Implemented cyclic coordinate descent for realistic robot skeletal movements;
- Generated randomized Hermite splines and Catmull-Rom splines to move climbing grips during gameplay;
- Applied rigid body movement and collision detection to simulate falling rocks hitting the player.

Web Dev Project: HiLink Official Site – HiLink   2020-2021

- Constructed the backend microservices (user authentication, form submission, etc) of HiLink education;
- Deployed the NodeJS backend with Azure app services and MSSQL database.

Game Dev Project: *Sparrow @ Tencent Game Design Practicum* – Tencent   2020

- Created a 2D platform game (about a protagonist making life choices) through Unity;
- Planned specific props and attribute values while designing game mechanisms with 8 other teammates.

PhysX Project: *VR Gym* – UCLA Center for Vision, Cognition, Learning, and Autonomy   2019

- Assisted a graduate student to develop their VR experiment environment with C++ in UE4;
- Retrieved, processed, and calculated physical values of rigid body collisions through PhysX API.