

Zhian Li

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EXPERIENCE

GungHo Online Entertainment America ([Link](#)) May 2023 — Current

Software Engineer

- Develop an unannounced console game using a customized version of Unreal Engine 5, programming in C++ and Python.
- Collaborate with designers and artists to design and implement tools that streamline content creation.

EthSign ([Link](#)) September 2021 — January 2022

Developer (React)

- Participated in a blockchain startup to build a contract-signing platform powered by cryptocurrency technologies.
- Encrypted contracts and binding them to the user's crypto wallet private key, ensuring high-level data security and privacy.
- Implemented the backend functions in Node.js for automatic email notifications when the contract is created and signed.

Tencent May 2021 — August 2021

Backend Developer Intern (Cloud Billing)

- Modified the legacy backend billing server to support auto-renewable contact (max single transaction up to ~\$10,000,000).
- Practiced modern C++ features in production, experienced working in a multi-department collaboration environment.
- Exercised scripting, memory management, and networking on the multicore environment of the Tencent Cloud server.

Tencent June 2020 — August 2020

Backend Developer Intern (Advertisement)

- Developed the backend client of the Real-Time Bidding Advertising System in Tencent Game using Go-Gin. Benefiting from Go's concurrency pattern, the system can process up to 150,000 QPS (queries per second).
- Built visualized graphs to monitor the statistical data of the bidding advertisement service.

EDUCATION

University of Southern California, Los Angeles, CA

Viterbi School of Engineering 2022 - 2023

M.S. in Computer Science

GPA: 4.00

Coursework: *Information Retrieval, Web Search Engines, Algorithms, Computer Animation and Simulation (Numerical Methods)*

Viterbi School of Engineering 2018 - 2022

B.S. in Computer Science

GPA: 3.95

Coursework: *Data Structures, Discrete Methods, Artificial Intelligence, Machine Learning, Operating System*

TECHNICAL SKILLS

- C++/Golang Backend Programming, Python, Java, React, Docker, MongoDB, SQL, Redis, Git

PROJECTS

Haptic Rendering System with VR (C++, Python, Linux, HaRVI Lab Research)

- Worked as a research assistant at the Haptics Robotics and Virtual Interaction (HaRVI) Lab at USC under the direction of Prof. Heather Culbertson. Utilized CAD tools and 3d printers to develop a new generation of a haptic rendering system.
- Research paper as co-author got accepted to *Eurohaptics 2024 Conference* ([Paper Link](#)).

Unreal 5 Action-Adventure Game (Advanced Game Project, [Video](#))

Usability Engineer (C++)

- Led usability team in a group of 30+ designers, engineers, and artists for one academic year, collaborated in developing a 3d third-person adventure game: *Manas*. The game focuses on the combat experience on foot and horseback.
- Addressed design issues and bugs using C++ & Blueprints, boosted performance without sacrificing the UE5 level graphics.

Pair Trading Analysis on Crypto Market (Python)

- As a two-person team project directed by a Ph.D. student, analyzed the minute-level price data of Bitcoin and Ethereum in 2020 and 2021, and tested the return of different investment strategies.
- Calculated different indicators, including k-line, hull moving average, and momentum with Pandas and Statsmodels.
- Added "Exit Threshold" to control loss. Simulation shows a 1.4% gain over one year period on test data.