

ZUOXIAN LIU

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EDUCATION

University of Glasgow

MSc. In Computing Science

Glasgow, Scotland, United Kingdom

September 2024 – September 2025(Expected)

Core Courses: Programming And Systems Development, Research and Professional Skills, Introduction to Data Science and Systems, MSc Project For Computing Science.

GPA: N/A

North China University of Technology

B.E. in Computer Science and Technology

Beijing, China

September 2020 – July 2024

Core Professional Courses: Object-Oriented Programming, Database Principles, Data Structure, Operating Systems, Principles of Compiler, Computer Network, Software Engineering.

GPA: 81.73/100

PROJECT EXPERIENCES (PARTIAL)

Multi-Platform Server Cluster Management System

December 2023 – July 2024

Full-stack Developer

Project Overview

- This project is an individual undergraduate design project, the goal of the project is to develop an easy to use and powerful server cluster management system.

Project Tech Stacks

- Frontend: Vue 3, Axios, Socket.io, Electron, Ionic Native, Capacitor.js.
- Backend: Node.js, Fastify, Socket.io, Sequelize, Redis, MySQL.

Project Details

- This project uses front-end and back-end separation architecture. The project can be used on three types of platforms: web, client (Windows), and Android.
- The system has four levels of permissions, and permissions can be issued level by level to ensure the granularity of permissions allocation.
- The system can automatically deploy the server Agent to the target server remotely, and after the deployment is completed, the user can obtain the operation data of the target server and perform management operations on the target server. The system can automatically deploy the server Agent to the target server remotely.
- Users can create logical clusters of servers and manage servers in bulk.
- Users can configure alarm conditions for each server within the system, and the system will notify specific user groups in a set way when server data reaches the predefined conditions.
- The Android side can work with the client and web side to scan the QR code for login operation.

Project Achievement

- The project has been tested and validated for deployment in real production environments, and small-scale live performance tests have been conducted.
- The web and client interfaces use different route caching mechanisms to ensure the interface response speed under different network conditions.
- The system API interface has been optimized for multiple rounds of performance, and the longest response time has been less than 500ms.
- It has been verified that when the system is running on the same server (2 cores and 2G RAM) with both Redis and MySQL services on the server side, the CPU utilization is less than 50% when it is burdened with data monitoring of 50 servers at the same time.

- The Agent side has been verified to have no significant performance impact on low performance servers.
 - Both the server side and the Agent side have been verified by 720 hours of trouble-free operation.
- Final Grade: 89 / 100*

Server Information Monitoring System based on Electron

January 2023 - March 2023

Full-stack Developer

Project Overview

- This project is an individual endeavor aimed at real-time monitoring of various servers' operational data and providing user notifications upon device online/offline events.

Project Tech Stacks

- Frontend: Vue 3, Electron, Axios.
- Backend: Node.js, Nest.js, MySQL.

Project Details

- Users can manually deploy the Agent program on the target server, and the back-end will add it to the database after receiving the information back from the Agent.

Project Achievements

- The project has been put into use and iterated for more than thirty versions, and has been running stably and achieving the set goals.

Train Ticket Ordering System

Jun 2022 – Aug 2022

Full-stack Developer

Project Overview

- This project is a software engineering course design project, the project objective is to design and implement a train ticket ordering system similar to 12306 (China Railway Booking Platform).

Project Tech Stacks

- Frontend: Vue 2, Axios.
- Backend: Node.js, MySQL.

Project Details

- The system contains two types of permissions, administrator and user.
- Administrator users can add stations and establish connections between stations. On the basis of the established connection, add the train frequency, including the model, total tickets of each class of seats, origin, destination, passing points and other information (the system automatically provides options). The contents of the added information include the model of the train, the total number of tickets for each class of seats, the starting point, the ending point, the passing point, and other information (the system automatically provides optional information).
- The system automatically calculates and parses the shift information added by the administrator and enters its segments into the database.
- Users can use fuzzy search to query the information of trains running between the starting point and the end point, and the system will automatically match the frequency of trains running in the future for display.
- Users can purchase tickets after logging in, and after choosing to add rider information, the system will automatically issue a unique identifier for the ticket for identification.

Project Achievements

- The system uses a logical data structure of graph type with stations as nodes, which dramatically improves the speed of route calculation and the operation speed of administrators when adding trips.
- The system has been optimized by several rounds of algorithms, which can ensure that the response speed of user query tickets is less than or equal to 300 milliseconds, and the processing time after the administrator's itinerary addition operation is submitted is less than 1 second.
- The project was rated as complete in function, beautiful in interface, reasonable in design, and received a high rating.

Final Grade: 93 / 100

My Northern Campus Communication Platform

January 2022 - June 2022

Team members & Chief Front-end Developer for Backstage Management System

Project Overview

- My Northern Campus Communication Platform is a campus communication chat platform developed using WeChat Mini Program.

Project Tech Stacks

- Frontend: Vue 2, Axios.

Responsibilities

- Primarily responsible for the development of a Vue2-based backstage management system. The management system encompasses typical features of communication platforms, including user management, post management, comment management, and content moderation.

Project Achievements

- After the successful development, the project operated smoothly and gained a user base. Additionally, it received the third prize in the China National College Computer Design Competition.

WORK EXPERIENCE

Taiji Computer Corporation Limited

Beijing, China

Product Manager Intern

August 2023 - October 2023

- Responsible for the digital construction project of state tobacco monopoly administration.
- Produce prototype diagrams according to requirements and liaise with developers and customers.
- Responsible for the output of product prototype diagrams and the implementation of some web pages, maintaining and correcting user-side data content.
- Utilized programming to analyze data, thereby improving the team's workflow and significantly enhancing the efficiency of data maintenance.

SKILLS

Programming Language: JavaScript (Proficient), C/C++ (Familiarize), Python3 (Acquainted), Java (Acquainted).

Software Framework: Frontend (Vue 2/3, React, Echarts, Vite, Webpack), Backend (Node.js, Express, Fastify, Sequelize.js), Database (MySQL, Redis), Cross-Platform (Electron, Capacitor.js).

Language & Teamwork Skills: Standard Mandarin (Proficient), English (Fluent), Git (Proficient), CI/CD (Acquainted), Markdown (Proficient).

AWARDS

- Second Prize in the Individual Software Category of the 2021 'Blue Bridge Cup' National Software and Information Technology Professional Talent Competition (June 2021)
- Third Prize in the 2022 China 'Internet+' University Student Innovation and Entrepreneurship Competition (Beijing Division), Participant (October 2022)
- First Prize in the 2022 'Challenge Cup' Capital University Student Entrepreneurship Plan Competition, Participant (July 2022)
- Third Prize in the 2022 China University Computer Design Competition Beijing Municipal Competition, Participant (June 2022)
- First Prize in Practice and Innovation Scholarship for the 2023 Academic Year (August 2023)

CERTIFICATES

- CET-4 Score: 559 (Permanent)
- CET-6 Score: 545 (Permanent)
- IELTS Score: 7.0 (L 8.5 R 7.5 W 6.0 S 6.5) (Valid until September 2025)
- Intelligent Medical Follow-up Platform Computer Software Copyright Registration Certificate (Permanent)
- Cutting-Edge Concept Notification Application Computer Software Copyright Registration Certificate (Permanent)