Tianhong Zhang

Evanston, IL, United states, 60201 | 8478341493 | tianhongzhang2024@u.northwestern.edu

Education

MASTER OF SCIENCE | NORTHWESTERN UNIVERSITY | EXPECTED IN 12/2023

- Major: Computer Engineering
- Main courses: OS, Database, Networking, Graphics, Rapid Prototyping

BACHELOR OF ENGINEERING | UESTC (CHINA) | 07/2022

- Major: Electronic and Electrical Engineering

Skills

- Front – End: HTML, CSS, JavaScript, bootstrap, React, Vue.js
- Frameworks and tools: Spring, MyBatis, Tomcat, WebGL, OpenGL, Unity, git
- Database: MySQL, MongoDB, Redis
- Programming language: JAVA, C, C++, Python, C#, GO, RUBY

Work Experience

INTERN | LINE | 01/2020 – 02/2020

- Worked as an intern Java programmer for 3 months
- Implemented a simple server backend of an e-shopping platform that can manage the products and the left number in the database, based on the Springboot framework.
- Implemented a fast, scalable, and distributed API gateway based on golang, which provides RESTful API to users and implemented the function of load balancing: Dynamic load balance traffic across multiple upstream services, transformation: HTTP->HTTP, HTTP->GRPC, security: whitelist/blacklist IP tables, Setup an SSL certificate for the gateway, API secret and access token authentication.

Project

RAY TRACER AND PARTICLE SYSTEM | OPENGL, C++, WEBGL, JAVASCRIPT,

- Implemented a non-realtime ray-tracer and a particle system which can demonstrate different particle effects.
- Github-link: zeratul1215/graphic (github.com)

A COMPREHENSIVE FOOD-ORDER WEBSITE BASED ON SPRINGBOOT AND MYBATISPLUS |SPRINGBOOT, VUE.JS, MYBATIS, HTML,CSS,JAVASCRIPT,AJAX,REDIS

- A food-order website which gives different information to employees and the clients: the employees can use it to manage the order from the clients, managing the product data in the database, the clients use it to browse the food available and make orders.
- Developed a back-end service by SpringBoot /Mybatisplus based on JAVA, Created Restful API for the front-end and back-end communication.
- Set up frontend webpage using the Vue.js with HTML/CSS/JAVASCRIPT/AJAX, implemented user friendly interfaces.

- Used MySQL and the DruidDataSource as the connection pool. Used Redis to Used Redis to provide the cache service for MySQL. Mybatis Plus framework to simplify the development.

ONLINE MEDICAL SERVICE RESERVATION SYSTEM|MIRCOSERVICE, SPRINGBOOT, SPRINGCLOUD, REDIS, MYBATIS,DOCKER,NGINX, VUE.JS

- Developed an ONLINE medical service reservation system including the management system for the employee and the APP for the patients. A microservice project.
- Used SpringBoot and the SpringCloud(springcloudGateway, springCloudAlibabaNacos) to implement the back-end service. Used the Redis as the cache and the MyBatis-Plus and the persistence layer framework
- Used Nginx to separate the request for static and dynamic resource, and balance the load for the back-end server.
- Used the SpringCloudGateway to implemented the service redirection.
- Used Vue.js to build the webpage. Used Axios to deal with the communication between front-end and back-end.
- Used docker and Jenkins pipline to deploy this project

TEXT BOOK WEB APP|SPRINGMVC,SPRINGBOOT,MYSQL,HIBERNATE,REACT

- Built a web app based on Java SpringMVC and SpringBoot.
- Utilized MySQL to store data and Hibernate to support database operation.
- Used React to build the webpage.
- Extending application capability to support RESTful API.

Selected Course Projects

GAME DEVELOPER | NUS (SINGAPORE) | 04/2021-08/2021

- Developed a 2d-platformer game based on Unity and C#
- Programmed the logic of the enemy AI (behavior tree), the path-finding algorithm when chasing, and some of the special effect in the game-world.
- Won the first prize of the whole summer workshop

Webpage-link (https://dazha.itch.io/attackscene?secret=f7h2YvyURZEhs4ddqxm7gE1umBo)

TEAM LEADER OF A ROBOT PROJECT | UESTC | 06/2020 – 10/2020

- A department wise competition of intelligent robot project, I worked as the team leader and the programmer
- Several fixed nodes in the competition field, each node are connected with some other nodes with a special path. the robot needs to figure the shortest path from an arbitrary node to another along the connection between them
- Path pattern recognize: use the graphic signal the OpenMV camera on the robot sent to the STM-32 microprocessor to figure out the pattern of the path and make the robot follow the path
- Used C++ as the programming language for the microprocessor.
- Figuring out the shortest path: Measured the length of every path between two nodes and store it in the program, then used the modified Dijkstra algorithm to figure out the shortest path between the start point and the destination.