Huangyu Zhang

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🎓 Education

University of Southern California   Expected Start Date: 2024.09
Master of Science in Computer Science   Los Angeles, USA

Xi'an Jiaotong University   2020.09 – 2024.06
Bachelor of Engineering in Computer Science   Xi'an, China
- GPA: 90/100 (Top $1\% \sim 5\%$)

💼 Internship Experience

Bytedance - C++ Software Development Internship   2023.06 – 2023.10
- Developed a parameter serialization module, adding parameter validation functions, which significantly reduced crash rates caused by parameter errors;
- Developed an API tool using doxygen, which automatically generates XML files based on header file comments for efficient API documentation writing;
- Programmed in C++ to refactor a module called MessageBus, which facilitated the handling of API call messages and asynchronous message dispatch, improving code readability and scalability;
- Designed and developed a subset of multi-stream APIs for Android and iOS platforms.

🔧 Project Experience

Traffic Flow Detection System based on Visual Perception   2023.11 – 2024.03
SpringBoot, Mybatis, MySQL, Redis, Vue, Node.js
- Followed a frontend-backend separation development pattern, encompassed features such as user authentication, user management, image uploading, and traffic flow recognition;
- Utilized Spring Boot framework for backend, incorporating Redis for caching user information, effectively addressing cache penetration issues;
- Utilized Node.js and Vue for frontend, using elements from Element UI Toolkit and an open-source template;
- The visual model employed the YOLOv5 model and was trained using the UA-DETRAC dataset. A Flask architecture was used to provide the frontend with algorithmic APIs.

C++ Non-intrusive Serialization Module   2023.06 – 2023.07
C++, JsonCpp, Cmake
- Developed a serialization module utilizing JsonCpp, employing macro expansion and templates;
- Automatically generated toJson methods for complex structures, facilitating parameter reporting and validation processes.

Socket Chat Application   2023.01 – 2023.03
C++, Socket, WaveX
- Designed and developed a server and a client in C++ to simulate a many-to-many chat room, with support for user authentication, file transfer and voice chat;
- Stored file sizes and MD5 checksums on the server to enable Breakpoint Continuation and Offline Download;
- Utilized WaveX to implement audio module, and used multiple buffers to ensure smooth audio playback.

🏆 Awards and Honors

Top 15% and Top 20% in two Kaggle Machine Learning Competitions   2023.08
The Bronze Medal in ICPC Shaanxi Provincial Contest   2023.05
The First Prize in Shaanxi Contest District in CUMCM   2022.11

⚙ Technical Skills

- Programming Languages: Java = C++ > Python
- Technology Stack: SpringBoot、MyBatis、MySQL、Redis、Vue
- Domain Knowledge：OS Principles, Computer Networking, Database, Data Structures, JVM