Stan He

315-572-3247 | xhe122@syr.edu | github.com/StanHXY | linkedin.com/in/stanhxy | stanhxy.github.io

EDUCATION

Syracuse University Sep 2021 – Dec 2023
Master of Science in Computer Science - GPA: 3.9/4.0 *Syracuse, NY*

- *Relevant Courses: Parallel Programming in C++, Operating System, OOP, Computer Architecture*

Beijing University of Technology Sep 2012 – Jun 2016
Bachelor of Arts in Visual Communication *Beijing, CN*

WORK EXPERIENCE

Pitney Bowes Inc. | Golang, MongoDB, AWS Jul 2023 – Aug 2023
Software Developer Intern *Shelton, CT*

- Developed **Microservices** to handle concurrency requests for a global e-commerce logistics system using Golang, leveraging MongoDB for data persistence and enhanced system efficiency and scalability.
- Boosted **gRPC** server's CPU utilization from 60% to 80% and elevated the throughput limit to **240,000 QPS** during stress test by setting up **connection pools** on gRPC-gateway to support expanding requirements for high-volume service.
- Rewrote user notification API to multiplex sockets of the **Redis** connections, significantly reducing time-wait errors in traffic spike periods during holidays e.g. 4th of July, and achieving an average message latency of **150 ms.**
- Implemented **AWS Lambda** microservice to validate device registration profile for 500+ UPS store through Okta, and set up **API Gateway** for synchronous invocation based on event-driven business logic.

ADT Data Technology Company | C++, Java, Python Mar 2021 – Jul 2021
Software Engineer Intern *Beijing, CN*

- Developed full-stack dashboard application with **Restful** services for company owners to analyze the financial and ownership information of over 3000+ companies located in Beijing to support merger and acquisition decisions.
- Accelerated the file uploading process by 55% per MB of files through implementing **zero-copy TCP** sockets in C++, and increased system scalability using Nginx reverse proxy for **load-balancing**.
- Designed **RabbitMQ** Producer and Consumer configurations for low latency, reliable message service, and integrated with **Redis** cache as the message broker to publish update messages to all subscribers.

PROJECTS

Rocket - Asynchronous RPC Framework | C++, Python, Linux Nov 2022 – Jul 2023
(https://github.com/StanHXY/RPC-framework)

- Designed a low-latency **RPC framework** in C++ based on a main-sub Reactor multi-thread architecture, leveraging Google **Protobuf** for custom RPC communication, and supporting simple HTTP protocol.
- Implemented an **event-loop** module using **epoll** system calls, enabling asynchronous execution of callback functions by the sub-Reactor, and incorporated a timer design to suspend task processing for failure prevention.
- Compiled with **CMake** for cross-platform builds, and automated template generator that adapts the framework to different environment configurations.

High-Performance Financial Data Center | C++, Linux Feb 2023 – Aug 2023
(https://github.com/Stan-HXY/HP-Financial-DataCenter)

- Built a Linux-based real-time financial data exchange center in C++ allowing users to fetch stock data integrated from multiple sources e.g. Finnhub, Yahoo Finance, for over 200 companies with **MySQL** and **Federated Engine**.
- Implemented a **POXIS**-based thread pool with **Async-I/O** to manage HTTP requests, reducing thread usage by up to 30% through dynamic sizing.
- Constructed process daemon to ensure continuous operation of all processes by monitoring their heartbeat information registered in **shared memory**.

SKILLS

Programming Languages: C/C++, Golang, Java, Python, JavaScript, Shell Scripting
Frameworks & Tools: Git, MongoDB, gRPC, MySQL, Redis, CMake, Spring Boot, AWS, Kubernetes, Docker