Jia-Jun Yeh

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Jia-Jun Yeh, a seasoned principal software engineer specializing in FinTech, blends deep computer science knowledge with expertise in C++ and Go. He has evolved into a skilled Kubernetes administrator and application developer, demonstrating exceptional adaptability and swift learning. Over the past few years, Jia-Jun has confidently embraced a significant leadership role, steering his team towards innovation and collective achievement with decisive direction.

Work Experience

Jan 2021-Dec 2023

Stranity Technology Co., Ltd. *Chief Technology Officer*

Spearheaded Stranity Technology Co., Ltd., a spin-off from Sky Mirror Technology.

Leadership Experience

- Successfully led the team in upgrading important internal systems to Kubernetes, which greatly enhanced the system's robustness and availability.
- Expanded a cross-functional team to 7 members, focusing on trading platform ecosystem development.
  - Provided technical decisions and architectural design for a team of 2 Backend Engineers and 2 Frontend Engineers in developing a back office system.
  - Mentored a Golang Backend Engineer from entry-level to senior, imparting advanced coding techniques, system design, and best practices.

Engineering Achievements

- Deployed and maintained self-managed high-availability Kubernetes cluster, OS, and network infrastructure.
- Designed and developed a trading system using Go (Golang), utilizing microservices architecture and distributed systems to handle up to 3,000 concurrent users.
- Enhanced Golang backend codebase, growing to 108k LOC, evolving to support 49 executables tailored for escalating code complexity.
- Engineered the low-latency order gateway core using modern C++ and low-level architecture optimization.

July 2019-Jan 2021

Sky Mirror Technology Co., Ltd. *VP of Engineering*

Led the development of a futures trading system, focusing on system optimization for trading efficiency.

- Expanded the team by recruiting 2 Backend Engineers and 1 Frontend Engineer, enhancing team diversity and technical capabilities as Team Manager.
- Optimized system architecture, achieving microsecond-level trading speed by selecting optimal data structures and redesigning process execution flow.
- Rearchitected C++ core components from MVC to Layered Architecture, improving maintainability and testability.
- Implemented a gRPC plugin for C++ applications, allowing direct function invocation within a single process to reduce network latency.

June 2018-May 2019

COBINHOOD, Ltd. *Lead Backend developer*

Led a team of 5 Engineers in cryptocurrency exchange development.

- Optimized Kubernetes deployments, cutting Google Cloud Platform costs by over USD 10,000 monthly.
- Implemented a Go-based client library, integrating Monero (C++) and Tezos blockchains, while tracing Monero's C++ codebase to ensure accurate and seamless integration.
- Managed critical exchange operations, holding exclusive access to hot wallet private keys, a responsibility shared only with the CTO and VP of Backend.

June 2017-June 2018

Taipei Exchange *Software Engineer*

Development of an emerging stock trading system.

- Developed message dispatch proxy to adapt the trading system to web service.
- Optimized continuous data streaming system to be 110 times faster and solved critical race condition problems. And developed a drop-in replacement for it based on libuv.

Education

2015-2017 **MSc, Institute of Computer Science and Engineering** National Chiao Tung University
2011-2015 **BSc, Computer Science** National Taichung University of Education

Presentation

2023-09-14 Configuration management in monorepo *# Golang Taiwan Gathering*

- Managing configurations in large monorepos with open-source tools.
- Focus on reducing dependency complexity.
- Strategies for scalable and maintainable config structures.

2023-09-21 My journey of on-premises Kubernetes - Everything before production *# CNTUG 2023-09*

- Solutions for building Kubernetes environments with open-source tools.
- Discusses architecture and high availability before production.
- Emphasizes hardware planning and stress testing.

2024-01-18 My journey of on-premises Kubernetes - Development of trading system with Golang *# Golang Taiwan Gathering*

- Migration from Docker/C++ to Go in a distributed system.
- Open-source tools for concurrency and Snowflake ID generation.
- Highlights Go's scalability for high-availability workloads.

2024-05-25 A Gin user's Rethinking: Those Bad Smells *# GopherDay Taiwan 2024*

- Decoupling business logic from Gin using open-source methods.
- Improves unit testing and error handling.
- Focus on modular, maintainable architecture design.

2024-08-03 Optimizing High-Frequency Trading Systems with Userspace RCU *# COSCUP 2024*

- Open-source RCU for improving trading system performance.
- Reduces synchronization overhead and improves latency.
- Highlights techniques like kernel bypass and busy polling.

2024-08-04 Beyond CRUD: Leveraging Advanced SQL for Backend Optimization RCU *# COSCUP 2024*

- Uses open-source SQL features like CTEs and Materialized Views.
- Improves API response times and data handling efficiency.
- Optimizes backend for large-scale profit and loss analysis.

2024-08-04 Entering SIMD Programming with Real-World Examples: A Code-Driven Journey *# COSCUP 2024*

- Demonstrates real-world SIMD examples for performance gains.
- Covers string operations using AVX2/AVX512.
- Focuses on handling edge cases in SIMD programming.

2024-08-04 Optimizing On-Premise Kubernetes Networking with BGP *# COSCUP 2024*

- Uses open-source tools like Calico and MetalLB for BGP routing.
- Enhances network load balancing and traffic management.
- Discusses challenges in large-scale Kubernetes deployments.