Jiangkun QIU

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Skill Set

- Expertise in Rust for 3 years in High Frequency Trading and web3.
- Long history of learning Java, C, C++ since primary school
- Algorithm and Data Structure training and competitions in middle and high school
- A wide technical stack, all main stream languages in fields from backend to basic frontend, from machine learning to smart contracts

Education

- Osaka University, Japan, Exchange, Humanity courses 2023
- HKUST, Hong Kong, Undergraduate, Computer Engineering major 2020-2025

Working Experienes

Intern Market Access	Qube Research and Technologies	Feb 2023-Aug 2022

- QRT is a global quant trading company split from Credit Suisse
- Implemented and optimized high-performance links in C++ for processing incoming market data and executing outgoing orders.
- Developed a comprehensive framework and advanced tools for efficiently managing and converting terabytes of historical market data.
- Created graphical analyzers to assess and improve the performance of trading links, providing valuable insights for decision-making and optimization.
- Designed and developed simulators for various exchanges, enabling accurate testing and evaluation of software and hardware order management system in simulated real-time environments.
- Studied mathematical techniques for hedging and backtesting

Intern Server Arch	Beijing ByteDance	Apr 2022-Sep 2022

- ByteDance is the company who developed TikTok
- Propose and implement independently git-fuse, designed for frequent codegen service for huge repos, minimizing the total processing time to 1/20, disk usage to 1/100, used in Overpass. Shared a talk with 100+ audience in the company
- Implemented a universal and customizable linter for ProtoBuf and Thrift, to facilitate automatic code review
- Maintain and improve on DevFlow, a platform that integrates a fluent online editor, peer review for API changes, linting, compatibility check, code generation
- Maintain and improve on Overpass, a widely used platform that collects RPC definition files and generate RPC client for other go projects

Consultant	Various Companies

- Rewrite a Tezos smart contract from the obscure Haskell Morley to clear SmartPy code
- Build a MVP exchange from scratch, implemented in-memory limit-order book, database API, user management, statistics dashboard, with special attention to compliance in Thailand
- Build ColdVault, bringing Hardware Secure Module to Ethereum and Solona

- Build MC^2, a shadow trading platform but runs on Decentralized Exchanges
- Build various smart contracts on Tezos, Ethereum and Solona

Intern Backend Dev	Mesoor AI	Dec 2020-June 2021

- Mesoor AI is a company in Shanghai, providing AI hiring platform to customers.
- Implemented a distributed throttler for very slow yet critical requests, with modified Sliding Log algorithm in Scala Akka and Redis
- Explore workflow of and integrated WeChat Work
- Build a Slow Refresh Service, channeling PostgreSQL changelog to Kafka

Part-time	High Frequency Trading of Cryptocurrencies	Jul 2020-Feb 2022

- Develop infrastructure in Rust from scratch, to collect market data feed and manage orders and accounting, with focus on ultimate low latency.
- Adopt and customize a TCP stack in Rust, running on DPDK to work around limitation of linux kernal network stack
- Invent tools to parse json and format http request, outperform the defacto library by a margin
- Iterate architecture to use same logic code for real-time trading and backtesting

Projects

Personal Project	SakuraTrading	Feb 2023-Now

- SakuraTrading is an ongoing effort to build HFT trading system emphasizing backtest-first
- No compromise among correctness, performance and elegancy, with help of SHLL(see below)
- Automatic selective computation of technical analysis indicators used in strategies
- Versatile data server for debugging, dashboard and backtesting
- Trade and backtest dashboard with E-Chart

Personal Project	High Level Staged Language	Jan 2022-Now

- SHLL is a programming language exploring high-level compiler optimization, to achieve real zero-cost abstraction and enhance compile time in Rust.
- Apply common simple optimization techniques and advanced ones: monomorphization and staging
- Implement comptime from ziglang and type algebra from TypeScript
- Use Rust's grammar and generates transformed rust code to reuse libraries, but other languages are also supported
- Support optimization mode and interpreter mode

Awards and Certifications

- China Computer Federation Certified Student Member — Jul 2019-Now
- First Prize in the High School Group of National Informatics Olympiad in Provinces — Nov 2017, Nov 2018
- Gold Award of RoboCom2018 Global Championship(Robot Competition) — Jul 2018
- Second Prize in 2017 Tsinghua University Dengfeng Cup Data Mining Competition — Jul 2018
- National Computer Rank Examination Level 4, Network Engineer — Nov 2016
- First Prize(6th) in the Middle School Group of National Informatics Olympiad in Provinces — Oct 2016
- First Prize(1st) in national finals of 19th He Education Cup Computer Competition — Jul 2016