Jiangkun QIU

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⚙ Skill Set

- Expertise in Rust for 4 years in High Frequency Trading and web3.
- Solo "full stack" High Frequency Trading systems builder about market-making and arbitraging
- 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

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

👥 Working Experienes

Intern Market Access	Qube Research and Technologies	Feb 2023-Now

- 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.
- Optimized the machine learning framework to achieve 3x predict speed improvement

Consultant	High Frequency Trading of Cryptocurrencies	Jul 2020-Feb 2023

- Designed and developed trading systems in Rust from scratch, modular design, with focus on ultimate low latency. tick2order latency 10us
- Implemented market-making and arbitraging algorithms that earn profits in production, supporting 5 researchers and traders. APR 50%
- Built highly efficient links about a range of centralized and decentralized exchanges
- Worked on a TCP stack in Rust, running on DPDK to work around limitation of linux kernal network stack
- Invented various tools like json parser and http request formatter, outperforming the defacto library by a margin
- Designed and developed Order Management System and Accounting System, to ensure consistency and correctness

Intern Server Arch	Beijing ByteDance	Apr 2022-Sep 2022

- Proposed and implemented 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
- Maintained and improved on DevFlow, a platform that integrates a fluent online editor, peer review for API changes, linting, compatibility check, code generation
- Maintained and improved on Overpass, a widely used platform that collects RPC definition files and generate RPC client for other go projects

Consultant	Various Companies	

- Built a MVP exchange from scratch, implemented in-memory limit-order book, database API, user management, statistics dashboard, with special attention to compliance in Thailand
- Built ColdVault, bringing Hardware Secure Module to Ethereum and Solana
- Built MC^2, a copy trading platform but runs on Decentralized Exchanges
- Built RedAlert, providing quick notification to price hikes in crypto world
- Built various smart contracts on Tezos, Ethereum and Solana

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
- Build a Slow Refresh Service, channeling PostgreSQL changelog to Kafka

👥 Projects

Personal Project	SakuraTrading	Feb 2023-Now

- SakuraTrading is an ongoing effort to build HFT trading system in Rust emphasizing correctness and personal usage
- 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 and React

Personal Project	High Level Staged Language	Jan 2022-Now

- SHLL enhances Rust's type system for greater expressiveness at build time.
- Implements advanced optimizations like monomorphization and staging.
- Enables cross-language compatibility for code translation and optimization.
- Offers flexibility with optimization and interpretation modes.
- Bridges high-level abstractions with low-level code generation.

🏅 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