

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 Experiences

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| Intern Market Access | Qube Research and Technologies | Feb 2023-Aug 2022 |
| <ul style="list-style-type: none">• 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 |
| <ul style="list-style-type: none">• 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 | |
| <ul style="list-style-type: none">• 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 copy trading platform but runs on Decentralized Exchanges
- Build RedAlert, providing quick notification to price hikes in crypto world
- Build various smart contracts on Tezos, Ethereum and Solana

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| Intern Backend Dev | Mesoor AI | Dec 2020-June 2021 |
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- 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

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

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| Personal Project | SakuraTrading | Feb 2023-Now |
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- SakuraTrading is an ongoing effort to build HFT trading system emphasizing backtest-first
- No compromise among correctness, performance and elegance, 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

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| Personal Project | High Level Staged Language | Jan 2022-Now |
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- 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

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| • 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 |