

QIU, JIANGKUN

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HONG KONG

EDUCATION

Hong Kong University of Science and Technology	2020-2025
Undergraduate <i>Computer Engineering</i>	Hong Kong
Osaka University	2023
Exchange <i>Humanities Courses</i>	Osaka, Japan

SKILLS

Rust: Rust for 4 years in High Frequency Trading and web3.

HFT: Solo “full stack” High Frequency Trading systems builder about market-making and arbitraging

Algorithm: Algorithm and Data Structure training and competitions in middle and high school

Others: A wide technical stack, all main stream languages in fields from backend to basic frontend, from machine learning to smart contracts

EXPERIENCE

System Engineer <i>Vincella Limited</i>	Aug 2024 - Dec 2024
<i>A trading start-up in Hong Kong, with founders from Citadel and Goldman Sachs</i>	

- Design overall trading architecture including data processing, research, order management, and back-testing
- Develop low-latency trading infrastructure from scratch with modern C++
- Explore modern research facilities with technologies from big data and machine learning fields
- Deploy best practices of DevOps, setting up offline CI/CD workflow

Intern Market Access <i>Qube Research and Technologies</i>	Feb 2023 - Jul 2024
<i>A global quant trading company split from Credit Suisse</i>	

- 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 <i>High Frequency Trading of Cryptocurrencies</i>	Jul 2020 - Feb 2023
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- 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 kernel 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

The company behind TikTok

- 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 MC², 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

Final Year Project | *Sakura Trading**2022-Now**Build HFT system in Rust with knowledge in all aspects*

- Low-latency crypto trading hotpath, with optimization on orderbook handling, network stack, and Rest/JSON codec, etc
- Versatile data pipeline for research, backtesting, especially parquet integration
- Careful modelling of instruments for arbitraging
- Distributed research & backtesting infrastructure with Ray, Polars and ClickHouse
- Frontend with SolidJS and gpui
- Monitoring infrastructure with prometheus and grafana

Personal | *High Level Staged Language**2022-Now**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 High School Group of National Informatics Olympiad in Provinces Nov 2017, Nov 2018
- Gold Award of RoboCom2018 Global Championship(Robot 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