



Xiaoxuan Zhang

AI & Software Engineer



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Focus Areas

- Time Series Foundation Models
- High-Availability Distributed Systems
- Crypto Trading Infrastructure
- Blockchain Protocol Development

Technical Stack

Languages

C++, Golang, Python

Paradigms

Event-Driven, Concurrency, Worker Pool, Producer-Consumer, Factory Pattern

AI Engineering

PyTorch, Chronos2, W&B

Infrastructure

Redis, MongoDB, Couchbase, MySQL, Kubernetes, NATS, Kafka

Trading

TradingView, Pine Script

PROFILE

Software engineer with experience spanning distributed systems, blockchain infrastructure, and quantitative trading platforms. Currently focused on integrating transformer-based time-series models into real-world cryptocurrency trading pipelines, combining AI forecasting, statistical learning, and market infrastructure engineering.

EXPERIENCE

2024–now **AI-driven Crypto Forecasting Research** UNIVERSITY OF AMSTERDAM

Fine-tuning Chronos2 time-series foundation models for probabilistic cryptocurrency return forecasting, aided by classical statistical methods for model diagnostics and calibration.

2021–now **Crypto Trading Infrastructure** INDEPENDENT / OPEN SOURCE

Built real-time market data infrastructure: WebSocket stream subscriptions for candlestick data cached in Redis, with a dedicated persistence thread to MongoDB; RESTful API gap-filling ensures historical data completeness and consistency.

2021–2024 **Senior Software Engineer** MAVENIR

Engineered telecom-grade microservices (Golang/Kubernetes) for virtual network element management; message-driven via NATS (intra-cluster) and Kafka (inter-cluster). Led HA redesign: stateless services with Couchbase, shared-memory state sync, and load-balancer gateway for multi-instance resilience. Designed two-layer Goroutine concurrency middleware: channel-based worker pool with dynamic scaling at the bottom; closure-based async callback framework at the top.

2018–2020 **Blockchain Engineer** LAVA

Implemented consensus logic and storage optimisations for a Bitcoin-derived blockchain protocol in C++.

SELECTED PROJECTS

More at xiaoxuanzhang.com/#projects.

Chronos2 Crypto Forecasting

Fine-tuned foundation models for probabilistic return forecasting and uncertainty-aware signal generation.

Gofer — Goroutine Concurrency Middleware

Two-layer design: channel-based worker pool with dynamic scaling at the bottom; closure-based async callback framework at the top. Eliminates uncontrolled goroutine growth in high-concurrency telecom services. (Proprietary, Mavenir)

ChomoSyncer

A real-time exchange ingestion and persistence system serving AI-driven quantitative trading workflows.

EDUCATION

2024–2026 **M.Sc. Computational Science** UNIVERSITY OF AMSTERDAM

Focus: computational finance, parallel computing, AI-driven time-series forecasting, and quantitative trading systems.

2009–2015 **B.Eng. & M.Eng. Control Engineering** WUHAN UNIVERSITY

Strong foundation in mathematics, systems engineering, and software development.