

JIANG CHENTAO

SOFTWARE ENGINEER

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PROFILE

Backend software engineer experienced in distributed systems, APIs, performance optimization, and data-intensive platforms. Built products and infrastructure across logistics, payroll, travel, and mobility.

EXPERIENCE

Flexport · Shanghai, China

Apr 2025 – Present

Senior Software Engineer

Kotlin, Rails, Redis, Snowflake, GraphQL, REST, MCP

Multi-Routing · Multimodal route planning

- Designed and built a multi-leg routing service using Kotlin and A* graph search across ocean, rail, barge, truck, and air; cached candidate sets in Redis and exposed ranked routes through a public REST API with an OpenAPI contract.
- Supported coordinate and port endpoints with sorting by transfers, transit time, or emissions. Fixed time-dependent direct-route results by enumerating zero-transshipment routes outside the A* budget.
- Centralized mode-pair handover rules and cross-border allowlists, and exposed routing as an MCP tool for AI agents.

Generic Candidate · Entity matching and human review

- Generalized an address-candidate model into a reusable matching and review platform; built its data model, event pipeline, unified work queues, and Kotlin/Rails GraphQL API for addresses, companies, sellers, destinations, and product POs.
- Added Snowflake decision telemetry and dashboards for trust, correction rates, and client workload; shipped a five-minute product PO candidate pipeline and paginated associated-PO search.

Snowflake · Performance and cost

- Reduced customs HTS report scan volume and query cost by **80%** (10.95 GB to 2.19 GB) and latency by approximately **65–75%** by consolidating five full-table queries into one unpivoted query; validated via feature switches and Datadog shadow comparisons.
- Eliminated approximately **134K wasted queries per week** with a precomputed visibility list and added a bounded cache for synthetic monitoring. Investigated idle warehouse cost and ran guarded resizing experiments, rolling back when p95 latency regressed.

NDA AI automation

- Automated intake, validation, and creation of network entities, with Slack status sync and handling for CFS, terminals, and inland depots; reduced human effort from roughly **20 minutes to a 1-minute approval** per request.
- Improved pipeline accuracy and cost through web-search limits and model upgrades.

Rippling · Beijing, China

Jul 2022 – Apr 2025

L6

Python, Django, MongoDB, Redis, Retool, Datadog

- Led design and development of the Global Benefits deduction module, creating an extensible multi-country framework integrated with Payroll.
- Partnered with Payroll, Product, and Compliance to resolve tax and integration requirements; delivered country-specific implementations for France, Germany, Portugal, the UK, and India.
- Built priority-based deduction events and automated recovery to address order dependencies and reduce manual intervention.
- Improved internal tooling, reducing Retool app creation time to five minutes; investigated slow pages and inefficient queries to improve responsiveness.

Airbnb · Beijing, China

Apr 2021 – Jul 2022

G8

Java, Python, Kotlin, MySQL, Redis, GraphQL, React, Kafka

- Built a government holiday data crawler and SDK, and refactored the underlying data model for use across projects.
- Developed host education and reminder mechanisms to improve responsiveness and business performance.
- Implemented opt-in, customer service, and booking flows for the China Worry Free campaign.

Didi Chuxing · Beijing, China

Jun 2018 – Apr 2021

D6

Go, OpenResty, Flink, service mesh, GraphQL, Elasticsearch, MySQL, Redis

- Built service-mesh traffic recording and replay to compare production and replayed responses, including configurable JSON diff functionality.
- Developed a tool-store gateway and management site; addressed cross-site access, backend permissions, publishing, and operational stability.
- Built a configurable GraphQL gateway with resolvers for Thrift RPC, HTTP, Elasticsearch, Redis, and MySQL.

Didi Chuxing · Beijing, China

Jun 2017 – Dec 2017

Intern

PHP, MySQL, Redis, Docker

- Implemented membership points and tier logic, operations configuration, and a Docker-based remote development and testing environment.

PERSONAL PROJECT

Basis Pulse · Real-time arbitrage monitoring

Go, WebSocket, PostgreSQL, Next.js, TypeScript, Kubernetes

- Built a market-monitoring system that ingests public exchange data and detects cross-exchange funding-rate and price-spread opportunities across spot and perpetual markets.
- Implemented time-window signal confirmation, market-data freshness checks, and fee and slippage estimates; built a dashboard for monitoring opportunity and exchange status.
- Designed fixed-shard workers and PostgreSQL-backed notification outbox with deduplication; added event recording and deterministic replay for investigation and strategy validation.

EDUCATION

University of Jinan · Bachelor's degree in Computer Science

Sep 2014 – Jun 2018

Coursework: Algorithms & Data Structures, Operating Systems, Networks, Databases, Computer Architecture

SKILLS & LANGUAGES

Languages: Kotlin, Go, Java, Python, PHP

Technologies: Rails, Django, GraphQL, REST, Redis, MySQL, MongoDB, Snowflake, Kafka, Flink, Docker, React

Languages: Mandarin (native), English (advanced)