BACKEND TECH LEAD · AI NATIVE ENGINEERING

seth-shi @seth-shi

Backend Tech Lead · AI Native Engineering & High-Concurrency Systems · 8+ Years

// the night's still young

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01 Capabilities · AI Native & Stack

CAPABILITIES

AI Native	1+ yr	1M+	1K+ ★
Spec-Driven · Multi-Agent Loop	Agent / Harness in Prod	DAU · 100M+ Daily Requests	Open Source · 40k+ Views

AI NATIVE SOFTWARE ENGINEERING

Production Workflow · 2025 — Present

1+ year operating **Agent / Harness-driven software engineering** in production: stepped into a greenfield **Node.js / TypeScript** stack as Backend Lead, turning delivery into a structured loop of requirement decomposition, architecture & spec constraints, multi-agent execution, automated verification, and engineering review across two core product lines.

Agent / Harness **Spec & Context Constraints**
Multi-Agent Workflow LLM / Function Calling · MCP · Cursor / Codex

ARCHITECTURE	8+ years in high-concurrency systems and runtime internals: led **PHP-FPM → Laravel Octane (RoadRunner)** containerized migration; built cross-language **PHP / Go OpenTelemetry tracing**; ROI-driven architecture decisions saving 1M+ RMB/yr.
LANGUAGES	**Go** **TypeScript / Node.js** **PHP** Python · Dart
FRAMEWORKS	**go-zero** **NestJS** **Laravel (Octane)** FastAPI · Flutter
DATA & MQ	**MySQL** **Redis** **Kafka** RocketMQ · MongoDB · ClickHouse · MQTT
INFRA & OPS	**OpenTelemetry** **Docker** **GitHub Actions CI/CD** ARMS · Canary Release · Load & Memory Tuning

02 Work & Project Experience

EXPERIENCE

2025.08 — Now
Current

Beijing Zhongtu Technology Co., Ltd.

Backend Tech Lead

Own end-to-end backend architecture, technology selection, task breakdown, DevOps optimization, and cross-functional delivery (aligning with product, business, and leadership on OKRs) across **two core product lines** (sticker/meme & avatar creation).

- **Cross-Stack Architecture & Dual-Line Delivery**: Transitioned into a **Node.js / TypeScript (NestJS)** stack as Backend Lead, establishing service architecture and reliably shipping features across both core product lines.
- **Production AI Native (Agent / Harness) Engineering**: Adopted an AI-first workflow (Cursor / Codex / multi-agent harness) across production delivery—structuring requirements into architecture specs and constraints, delegating implementation to AI agents, and enforcing quality via automated checks and engineering review to deliver high throughput with a lean team.
- **DevOps & Reliability Optimization**: Streamlined containerized deployments, CI/CD automation, logging/alerting observability, and code quality gates to reduce release friction and keep rapid iterations stable in production.

2019.09 — 2025.08
6 Years

Beijing Mengbao / Xi'an Mengye Network

Senior Backend Engineer

01 Video Transcoding & CDN Cost Optimization

ROI-Driven Architecture

- Proactively investigated high bandwidth costs in video distribution, benchmarking multiple transcoding engines and cloud CDN vendors.
- Evaluated trade-offs across visual quality, compression ratio, transcoding cost, and CDN egress pricing, leading production rollout that **saved over 1M RMB per year in CDN costs**.

02 Core Runtime Modernization & Distributed Observability

Performance · Internals

- Led migration of core PHP services from PHP-FPM to containerized **Laravel Octane (RoadRunner)**, conducting load-test tuning and diagnosing high-memory queue worker issues.
- Built cross-language **PHP / Go OpenTelemetry tracing** and log pipelines, resolving trace span discontinuity and context propagation issues to accelerate root-cause analysis.

03 Ad Attribution System

User Growth · Consistency

- Architected high-concurrency attribution pipelines with a two-layer safety net (real-time attribution cache + delayed queue verification) to resolve out-of-order re-engagement events and adapt to multiple attribution signals.
- Enabled creative-ID-based personalized homepage content delivery to improve post-click conversion.

04 Ad Network Platform

High-Concurrency Serving

- Powered **1M+ DAU impressions & 100M+ daily ad requests** with multi-dimensional audience targeting.
- Built real-time bidding aggregation strategies and maintained **millisecond-level** ad strategy matching backed by ARMS observability.

05 Intelligent A/B Experimentation Platform

Data-Driven Loop

- Built dynamic traffic allocation shifting traffic toward winning variants across playback, dwell time, and CTR; supported zero-downtime server hot updates and automated statistical significance reporting.

2017.12 — 2019.06
1.5 Years

Nanjing Chitu Network Technology Co., Ltd.

Backend Engineer

- Built and maintained core Laravel-based RESTful APIs for the "Jiaohuidian" mobile news app, focusing on content delivery reliability and API performance.

03 Open Source & Products

COMPASS ↗

seth-shi / monday-shop ↗

Full-featured open-source e-commerce platform covering catalog, orders, payments, and RBAC admin, modernized to Laravel 10 with Octane containerization.

PHP / Laravel ★ 660+ 180+ forks

seth-shi / go-v2ex ↗

Lightweight CLI client for V2EX written in Go, designed for fast terminal navigation and cross-platform single-binary distribution.

Go ★ 100+ 5+ forks

CONTRIBUTED TO laravel/framework laravel/horizon gogf/gf zeromicro/go-zero

go-pay/gopay silenceper/wechat cosmtrek/air z-song/laravel-admin jqhph/dcat-admin

04 Education

EDUCATION

Guangxi Technological College of Machinery and Electricity — *the night's still young*