

# Will Cygan

SENIOR SOFTWARE ENGINEER, LINKEDIN BUSINESS PLATFORM

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## Work Experience

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### Senior Software Engineer

LINKEDIN

Chicago, IL

March 2024 – Present

- Architected real-time alerting system processing 100,000+ QPS using Kafka/Flink/Venice, recovering \$2M+ annually in involuntary churn by notifying subscribers of failed payments before subscription cancellations.
- Eliminated N+1 query problem in Order Processing system, reducing average query latency by 40% (50ms→30ms) and p95 by 37% (200ms→125ms) across all ordering workflow read paths.
- Built reusable Oracle-to-MySQL migration framework adopted by 12 teams, saving 12+ months of cumulative engineering time and standardizing migration patterns across the organization.
- Executed zero-downtime Oracle-to-MySQL migration for 2 databases handling 3,000 QPS, maintaining strong consistency through Couchbase-backed sticky sessions and GoldenGate replication.
- Created Airflow cache invalidation job purging 30,000 stale records daily, preventing unnecessary gRPC calls to downstream services and reducing cross-team service load.
- Reduced Order database size by 33% (12TB→9TB) by implementing distributed deletion pipeline using Spark, Kafka, and batch processing to safely remove 3TB of obsolete records.
- Optimized JVM performance across 5 production services, improving health scores from 30-80% to 99.9%+ by reducing GC pause times by 86% (700ms→100ms) and eliminating daily alerts.

### Software Engineer

LINKEDIN

San Francisco, CA

Feb 2022 – March 2024

- Scaled Videos You Might Be Interested In recommendation to 3,000 QPS on LinkedIn Feed, increasing course discovery CTR by 10% through TikTok-style video carousel.
- Built Learning Alerts Spark pipeline analyzing 50TB+ weekly to match 10M+ job seekers with learning courses aligned to their career goals, increasing notification conversion rates by 5%.
- Developed deterministic bucketing algorithm for Learning Alerts Spark pipeline, enabling clean A/B test readouts by segmenting 10M+ users into isolated experiment groups.

## Projects

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### Anton (Kubernetes Homelab)

⌚ wcygan/anton

- Built fault-tolerant 3-node bare-metal Kubernetes cluster using Talos Linux with GitOps CI/CD automation, achieving 99.9% uptime over 12+ months.
- Built and deployed e-commerce site ([kneadybynaturebakery.com](http://kneadybynaturebakery.com)) on homelab cluster so my sister can sell online.
- Deployed distributed data systems (TiDB, RedPanda, DragonflyDB, ScyllaDB, ClickHouse) to evaluate performance characteristics and operational trade-offs of modern database alternatives.

### tokio-utils Rust Library

⌚ wcygan/tokio-utils

- Published async Rust library implementing rate limiting, object pooling, and graceful shutdown patterns, achieving 2x performance improvement in object pool benchmarks.
- Implemented web crawler processing 300+ pages/minute with adaptive rate limiting, achieving 0% IP blacklist rate across 1,000+ domains while building internet graph index for PageRank analysis.

## Skills

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**Languages** Java, Rust, Python, SQL, Bash, Go, TypeScript, Scala

**Technologies** Kafka, gRPC, Temporal, Flink, Spark, Airflow, Trino, Kubernetes, Docker

**Databases** MySQL, Redis, Couchbase, Oracle, DragonflyDB, Venice, HDFS, S3

## Education

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### University of Illinois at Chicago

Chicago, IL

B.S. IN COMPUTER SCIENCE

2021