

# Ankur Rana

Senior Software Engineer | System Architect | Distributed Systems & AI

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## PROFESSIONAL SUMMARY

Results-driven software engineer and system architect with over 10 years of experience designing, building, and scaling high-performance distributed systems. Currently at Microsoft, building AI-powered Copilot Agents leveraging LLMs and Microsoft Copilot Studio. Proven track record of reducing p99 latency by 50%, automating infrastructure optimisation across 100s of clusters, and leading cross-functional engineering teams. Deep expertise in Golang, TypeScript, and Java, with hands-on experience across Elasticsearch, Kafka, gRPC, Redis, and cloud platforms (GCP, AWS). Passionate about system design, performance engineering, and leveraging AI to accelerate software delivery.

## TECHNICAL SKILLS

Languages	Golang (Go), TypeScript, Java, JavaScript
Backend & Data	Elasticsearch, Apache Kafka, gRPC, Redis, PostgreSQL, MS SQL, Node.js, Nginx
Cloud & DevOps	Google Cloud Platform (GCP), Amazon Web Services (AWS), Docker, Terraform, CI/CD, Canary Deployments
Architecture	Distributed Systems, Microservices, Event-Driven Architecture, System Design (HLD/LLD), Performance Optimisation
AI & Automation	Large Language Models (LLMs), Microsoft Copilot Studio, AI-Assisted Development, Workflow Automation
Leadership	Technical Architecture, Team Leadership, Mentoring, Cross-Team Collaboration, Customer Engagement

## PROFESSIONAL EXPERIENCE

**Senior Software Engineer** October 2025 — Present

Microsoft — ESS (Employee Self Service) Team, Bangalore

Tech: TypeScript, Microsoft Copilot Studio, LLMs, REST APIs, Enterprise Integrations

- Building **ESS**, an AI-powered Copilot Agent that streamlines employee interactions with HR and IT systems, serving **Microsoft's global workforce of 200,000+ employees**
- Took end-to-end ownership of extensibility platform post engineering re-org; resolved critical production blockers that **unblocked ESS rollout for multiple strategic enterprise customers**, directly maintaining customer confidence and retention
- Designed and implemented natural-language workflows powered by LLMs and Microsoft Copilot Studio, **reducing average HR/IT task completion time** by replacing multi-step manual processes with conversational interactions
- Improved ESS user experience through UX enhancements that **significantly increased user engagement and satisfaction** across enterprise deployments
- Led the onboarding of **multiple Fortune 500 and multi-million dollar enterprise customers** onto the ESS platform, directly contributing to product revenue growth and market expansion
- Streamlined customer support channels and built internal knowledge-sharing processes, **reducing support ticket resolution time** and enabling the support team to handle issues independently
- Mentored and onboarded new engineers to the project, **distributing ownership across 3 additional contributors** and improving execution velocity for the broader team
- Proactively joined customer escalation calls outside regular hours, **resolving blocking issues within hours** and ensuring uninterrupted ESS adoption momentum

**Technical Architect**

April 2021 — May 2024

## Goto Group (Gojek · Tokopedia) / ByteDance (TikTok Shop)

Tech: Golang, Elasticsearch, Kafka, gRPC, PostgreSQL, Redis, Nginx, Terraform, Linux, GCP

- Optimised search architecture, **reducing p99 latency from 210ms to 105ms (50% improvement)** by tuning Elasticsearch index mappings, shard strategy, and data distribution
- Reduced memory allocations in hot Go code paths, cutting application CPU usage and GC pause times across high-throughput services
- Built an **Index Mapping Analyser** (Golang) that automated Elasticsearch configuration optimisation across **100+ ES clusters** at Tokopedia
- Designed HLD & LLD and developed backend systems for e-commerce applications — ingestion pipelines, user-facing APIs, and internal services
- Implemented automated canary deployment pipelines for Go services, significantly reducing manual post-deployment monitoring overhead
- Created a Linux System Metrics analysis tool (CPU, Disk IO, throughput, memory) to recommend cost-effective infrastructure across Go services, ES clusters, Kafka, and PostgreSQL
- Led small teams of 4–5 engineers on high-impact initiatives; worked remotely for 2 years during COVID

## Senior Software Engineer 2

April 2018 — March 2021

### Fareye Logistics

Tech: Java, Node.js, TypeScript, Kafka, Nginx, Docker, Docker Swarm, RDS, AWS

- Decomposed a monolithic application into **event-driven microservices** communicating via Kafka; designed, built, and maintained them as the sole developer
- Architected a highly scalable Node.js real-time tracking platform for Dominos Delivery Partners, handling **millions of requests per second** — enabling live driver-to-customer visibility and data-driven delivery performance incentives
- Contributed to the open-source **Debezium** CDC tool by identifying and reporting functional and performance issues, improving the tool for the broader community

## Software Engineer

May 2015 — March 2018

### Kronos Incorporated (now UKG)

Tech: Java, TypeScript, Node.js, Angular, PostgreSQL, MS SQL

- Diagnosed and resolved critical production issues in an enterprise payroll processing application serving large-scale workforce operations
- Developed features across the full stack using Java, TypeScript, Node.js, Angular, PostgreSQL, and MS SQL

## PROJECTS

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### ES Mapping Analyser — [github.com/Ankurrana/es-mapping-analyser](https://github.com/Ankurrana/es-mapping-analyser)

Open-source Golang tool that automates identification of Elasticsearch index optimisations based on query patterns. Deployed across 100+ clusters at Tokopedia to improve search performance at scale.

## EDUCATION

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### Bachelor of Technology — Computer Science & Engineering

March 2011 — March 2015

JSS Academy of Technical Education — GPA: 8.0 / 10.0

## ADDITIONAL

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**Interests** Large Language Models, Competitive Programming, System Design, Stock Markets

**Profiles** LeetCode · Medium