

Hemanth Kumar Kola

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Professional Experience

Software Engineer

Jun, 2023 - Now

Dish Network Technologies Pvt Ltd.

As a member of the CMW team, I own major deliverables and spearheaded new initiatives for the backend development of Sling, an entertainment and multimedia application.

Core Platform & Feature Innovation (Sling New Guide)

- **Architected "Personalization Separation"** by decoupling user-specific data (Favorites, DVR, Parental Locks) from static schedules; utilized **Reno (EDA)** for real-time client-side cache mutations.
- **Optimized high-traffic delivery** by transitioning schedule serving to **CDNs**, achieving a **94% cache hit rate** during peak hours and insulating backend services from massive traffic spikes.
- **Developed 5 Go-based microservices**, including a modular "mini-drawer" service now reused across the Sling ecosystem to deliver dynamic channel and program metadata.
- **Drove significant UX metrics:** Reduced **Time to Video by 5 seconds**, increased **daily view hours by 10 mins**, and boosted Guide engagement from **22% to 24.5%**.

System Architecture & Performance Engineering

- **Implemented a Redis Active-Active caching layer** for critical monetary flows, slashing daily backend calls by **18 million** and significantly reducing operational overhead.
- **Co-Developed a scalable Event-Driven Architecture (EDA)** projected to save **\$400K annually** by optimizing cross-service communication and resource utilization.
- **Strengthened system resilience** by implementing **Circuit Breaker patterns** for critical upstream dependencies, preventing cascading failures during outages.

Cloud, Observability and more

- Standardized Observability by integrating OTel (OpenTelemetry) across all CMW services, facilitated a seamless migration from New Relic to Dynatrace, **cutting monitoring costs by 50%**.
- Led a **zero-downtime migration** of the entire middleware system between Confluent Kafka clusters.
- Boosted developer productivity by building a custom Kubernetes port-forwarding tool, automating local service maintenance and **reducing environment setup time**.
- **Spearheaded AI adoption** by evaluating **Amazon Q**, presenting a business case to leadership that led to successful license acquisition for the engineering team.
- Delivered lead generation feature that resulted in a **30% increase in marketing leads** through enhanced user engagement and account creation flows.
- Guided team members in mastering **Go and understanding cloud native services**.
- Serving as the go-to person for production issues, ensuring fast debugging and resolution.

Skills

- **Programming Languages:** Go (Golang), C/C++, Python.
- **Technologies & Frameworks:** Microservices, REST APIs, gRPC, Event-Driven Architecture (EDA).
- **Infrastructure & Cloud:** Kubernetes, Kafka, Redis, Cassandra, Git/Gitlab.
- **Observability & Tools:** OpenTelemetry (OTel), Dynatrace, New Relic, Amazon Q, JMeter, Blazemeter.
- **Engineering Disciplines:** Performance Engineering, System Architecture, Circuit Breaker Patterns.

Education

National Institute of Technology, Calicut | B.Tech

Aug, 2019 - Apr, 2023

Awards

- Spot Award for Integrating OTEL in 20+ services
- Spot Award for evaluating GenAI tools and analysing the ROI on enabling engineers with licences.