

# Aparna Mane

aparna.code98@gmail.com | +91 996-768-4498 | [Portfolio](#) | [LinkedIn](#) | [GitHub](#)

**Software Engineer** with 6 years of Experience designing and operating **distributed, low-latency, high-throughput systems** building scalable backend services, high-performance **REST APIs**, and **AI-powered agentic workflows**. Passionate about **Distributed Systems**, and architecting complex platforms that scale.

## EDUCATION

**K. J. Somaiya College of Engineering (Autonomous) — B.Tech, CGPA: 8.23/10 · Mumbai** | India

June 2017 – June 2020

## PROFESSIONAL EXPERIENCE

**Software Engineer · Hedgineer** | Bangalore

Jan 2026 – Present

- Re-architected the analytics layer from a file-based Parquet store to **DuckDB OLAP engine** with in-memory CTEs, C++ vectorized execution, query optimizer, and secondary indexes eliminating OOM risks on large files and cutting ad-hoc financial query latency by up to 5x.
- Implemented role-based auth caching, reducing API authorization overhead by 98% from **2–4s** to under **40ms(milli seconds)**.

**Senior Software Engineer · Morgan Stanley** | Mumbai

April 2022 – Jan 2026

- Designed distributed data pipelines** using Flink, Kafka, and Delta Lake for real-time event ingestion and CDC, processing millions of high-frequency events daily.
- Engineered fault-tolerant microservices with **exactly-once processing** semantics, achieving sub-millisecond API latency across millions of daily REST operations.
- Modernized authentication from legacy **Kerberos** to **OAuth 2.0**, strengthening API security and authorization flows across platform services.
- Built an **AI-powered configuration assistant** using FastAPI and OpenAI LLMs integrated with real-time pipelines, enabling live decision dashboards for traders.
- Implemented end-to-end observability (metrics, logs, traces via ESM stack) and **Kafka**-based usage logging for proactive incident detection.
- Built a **Redis** write-around cache for entitlement checks, reducing latency from **203ms** to **3.5ms**, modernized auth from Kerberos to **OAuth 2.0**.

**Software Engineer · IDfy** | Mumbai

Jan 2022 – April 2022

- Redesigned Darwinbox HRMS integration APIs and resolved a critical vendor hierarchy flaw in **Amazon's BGV pipeline** by enforcing explicit parent-child verification at every level.

**Associate Software Engineer · LogisticsNow** | Mumbai

July 2020 – Jan 2022

- Designed, deployed, and restructured **200+ REST APIs** and **80+ applications** on **Azure Cloud**, improving performance and user experience for logistics services.
- Implemented **database sharding** and **replica sets** across 5+ servers, distributing traffic and ensuring availability under peak load.
- Built a **real-time procurement auction portal** using **SignalR**, streamlining supplier selection and reducing negotiation costs by up to **30%** for Fortune 500 clients.

## PROJECT HIGHLIGHTS

**Real-Time Financial Data Platform** | *WebSocket · Streaming · FastAPI · DuckDB*

- Transformed a **T-1** batch reporting system into a **real-time data platform** delivering live PnL, NAV, NMV, and alpha metrics with sub-second latency via **WebSockets**, replacing stale overnight snapshots with continuous streaming enabling intraday trade decisions that were previously impossible with end-of-day data.

**MCP Server Suite & Agentic Workflow Platform** | *MCP · LLM Agents · FastAPI*

- Designed and built a suite of **Model Context Protocol (MCP) servers** exposing live Hedge Fund portfolio metrics as structured tool-callable context composed them into **multi-step agentic workflows** where LLM agents autonomously reason over real-time portfolio state, execute analytical skills, and surface actionable trade insights tying the full data platform into a conversational intelligence layer.

**gRPC Microservices Integration** | *gRPC · Apache Flight · FastAPI · Protobuf · Python*

- Replaced REST with **gRPC** across internal microservices, cutting API latency from **3s** to **600ms** and achieving **60% improvement** in throughput; integrated **Apache Arrow Flight** for high-speed, zero-copy columnar data transfer, optimizing large payload exchanges between services.

**On-Prem to Cloud Migration** | *FastAPI · Azure Kubernetes Service · OAuth2 · API Gateway*

- Migrated **JupyterLab** and in-house **DzPy** data library from on-premises to **AKS**, replacing manual memory management with **auto-scaling** — reducing infrastructure costs by **30%** (\$11M to \$7.7M).

**Auction Portal** | *Azure Functions · Cosmos DB · SignalR · Redis · Azure DevOps*

- Built serverless REST APIs on **Azure Functions** with **Cosmos DB** for auto-scaling storage, integrated **SignalR** for real-time bidding updates and **Redis** caching for auction metadata, ensuring low-latency data retrieval.

## AWARDS

- IST COE Award for Platform Modernization**
- ESTAR Recognition Award for Exceptional Delivery**

Morgan Stanley, 2023

Morgan Stanley, 2022