

Aparna Mane

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Summary

Software Engineer with 5+ years of experience building **scalable, low-latency distributed systems** and **REST APIs** using **Kafka, Flink**, and **FastAPI** — delivering **high-performance, reliable infrastructure** powering **data-intensive financial platforms**.

Education

K. J. Somaiya College of Engineering (Autonomous), Mumbai.

June 2017 – June 2020

- *Bachelor of Technology(BTECH) | CGPA - 8.23/10*

Professional Experience

Senior Software Engineer, Morgan Stanley – Mumbai, Maharashtra

April 2022 – Present

- Integrated **Apache Flight (gRPC)** for high-speed columnar data transfer, improving throughput by **60%**.
- Designed and optimized distributed data pipelines with **Flink, Kafka**, and **Delta Lake Store** for real-time data ingestion and **CDC(Change Data Capture)**.
- Engineered fault-tolerant microservices with **exactly-once processing**, handling millions of high-frequency **REST API** operations daily with **sub-millisecond** latency.
- Built a **Redis**-based write-around cache for entitlement checks, reducing average latency from **~203ms** to **~3.5ms**.
- Migrated **microservices** authentication from **Kerberos** to **OAuth 2.0** by implementing token-based security protocols, strengthening API security and **Authorization** flows.
- Designed **high-throughput** backend microservices and an AI-powered configuration assistant using **FastAPI** and **OpenAI LLMs**, enabling real-time decision dashboards for traders.
- Guided and mentored **junior developers and interns**, fostering their technical growth and career progression. Conducted technical interviews to evaluate and onboard candidates aligned with team objectives.

Associate Software Engineer, LogisticsNow – Mumbai, Maharashtra

July 2020 – Jan 2022

- Implemented **database sharding** and replica sets across 5+ servers, improving scalability and ensuring availability under peak load conditions.
- Automated manual fuel data processing using Azure Functions and **MongoDB**, streamlining batch updates and eliminating spreadsheet-based workflows.

Project Details

Dynamic Dashboard Project | *FastAPI, OIDC/OAuth2, MongoDB, Kafka, Jenkins*

- Developed backend APIs with **FastAPI** and **MongoDB**, utilizing **Pandas** for efficient data processing and analysis.
- Migrated services from **SPNEGO** to **OIDC/OAuth2.0**, improving security and data governance.
- Implemented usage logging with **Kafka** to track platform activity, and integrated **ESM stack** for end-to-end observability, adding **Metrics, Logs**, and **Traces** to monitor the backend service.
- Reduced dashboard development time from weeks to hours, enabling faster decision-making for strats and traders.

On-Prem to Cloud Migration | *FastAPI, Azure Cloud, Kubernetes, OAuth2,*

- Migrated JupyterLab and in-house DzPy library from on-premises to the cloud, leveraging **Azure Kubernetes Service (AKS)** for hosting and scaling.
- Utilized an **API gateway** for secure and seamless connectivity between cloud and on-premises systems, implementing asserted end-user identity with the Client Credential Grant flow for authentication.
- Replaced manual memory management with **auto-scaling**, optimizing resource utilization and reducing costs.

Auction Portal | *Azure Cloud, Azure DevOps, Postman, Redis, Azure Cosmos DB*

- Developed Backend REST APIs using **Azure Serverless Function Apps**, with **Azure Cosmos DB** for scalable data storage and auto-scaling based on load.
- Integrated **SignalR** for real-time bidding updates and tracking of online transporters during the auction.
- Used **Redis** to cache auction metadata, ensuring optimal performance and faster data retrieval.
- Conducted API testing using **Postman** and monitored system health with **Azure Application Insights**.

AWARDS

IST COE Award for Platform Modernization

Morgan Stanley, 2023

ESTAR Recognition Award for Exceptional Delivery

Morgan Stanley, 2022