Aparna Mane

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Summary

Software Engineer with **5+ years of experience** building **scalable, low-latency distributed systems** and **robust backend services**. Known for delivering **high-performance, reliable infrastructure** for **data-intensive platforms** and for a strong passion for **debugging complex system behaviors** to ensure rock-solid stability.

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*