Aparna Mane

Mumbai, India | aparna.code98@gmail.com | +91 996-768-4498 | Linkedin

Education

K. J. Somaiya College of Engineering (Autonomous), Mumbai.　　　　　　*June 2017 – June 2020*
- *Bachelor of Technology(BTECH) | Electronics Engineering | CGPA - 8.23/10*

Veermata Jijabai Technological Institute(VJTI). (Autonomous), Mumbai.　　　　*Aug 2014 – June 2017*
- *Diploma | Electronics Engineering | Percentage - 86.03*

Professional Experience

Senior Software Engineer, Morgan Stanley – Mumbai, Maharashtra　　　　　　*April 2022 – Present*
- Integrated **gRPC** and Apache Flight into Python **FastAPI** microservices, replacing REST to boost latency and throughput by 60% and enable highspeed columnar data transfer.
- Engineered a **front-office**, fault-tolerant trading platform with exactly-once processing, reliably handling millions of high-risk transactions daily with <1ms average processing latency.
- Implemented a **Redis**-based write-around caching layer for entitlement checks, reducing latency from ~203ms to ~3.5ms achieving ~58x performance improvement.
- Designed comprehensive low latency high throughput backend frameworks tailored for data visualization within dashboards, identifying key performance bottlenecks that led to an average response time improvement from ~**8 seconds** down to ~**2 seconds** per query using **FastAPI**, **MongoDB** and **KAFKA**.
- Migrated **microservices** authentication from **Kerberos** to **OAuth 2.0** by implementing token-based security protocols, strengthening API security and **Authorization** flows.
- Applied Change Data Capture (CDC) techniques using **Flink** and **Kafka** to track data changes in real-time, ensuring synchronization between systems and reducing the need for batch processing.
- Reduced dz-get query processing time by 86%, from ~**16 seconds to ~3 seconds**, through implementing the Singleton pattern and optimizing delay points.
- 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.

Software Engineer, IDfy – Mumbai, Maharashtra　　　　　　*Jan 2022 – April 2022*
- Redesigned a core **REST** API for HRMS-based integrations, reducing client integration time through redundancy-reducing in-built logic.

Associate Software Engineer, LogisticsNow – Mumbai, Maharashtra　　　　　*July 2020 – Jan 2022*
- Implemented database **sharding** and a replica set configuration to distribute data across 5+ servers, enhancing traffic management and ensuring **availability** during peak loads.
- Developed a scalable, real-time procurement **auction** portal using **SignalR** Azure service, streamlining the supplier selection process and reducing negotiation time and costs, resulting in up to **30% savings** for Fortune 500 clients.
- Enhanced API response times and eliminated **SNAT** port exhaustion by deploying the **Singleton** pattern across codebases

Project Details

GenAI Configo | *OpenAI, FastAPI, Jupyterlab, Scalar*
- Developed an AI-powered configuration assistant using OpenAI LLM, trained with custom data, to guide FEs and strats in configuring personalized CDB baskets based on client requirements.
- Implemented prompt engineering to allow users to describe their needs in plain language, with the LLM interpreting this to recommend optimal feature combinations.
- Leveraged custom datasets (Constituents.csv, Funds.csv) to enable the assistant to deeply understand product features and user intent, automating the feature configuration process.

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 autoscaling, 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**.

Fuel Normalization System | *Azure Cloud, MongoDB*
- Fully Automated Excel file processing previously handled manually by the data team using Azure Blob Storage triggers in Azure Functions.
- Developed a REST API to add document entries to Cosmos DB, utilizing a Cosmos DB Trigger to asynchronously adjust fuel prices and rates.

Technologies

Languages: C++, Python, Ruby on Rails.

Web Frameworks: FastAPI, Gunicorn, Uvicorn

Cloud & Infrastructure: Azure Cloud, Azure DevOps, Docker, Flink, GenAI, Jenkins, Kafka, Kubernetes, Redis, SSL/TLS, Zookeeper.

Data Systems & Technologies: Apache Arrow, Apache Flight, Apache Parquet, MongoDB, MySQL

Authentication & Security: OAuth2, OIDC, SSL/TLS

Version Control & Tools: Git, Jupyter Server, Postman, Splunk, VS Code

Certifications

Completed 5-Day Gen AI Intensive Course with Google	*2024*
Microsoft Azure Fundamentals (AZ-900) certification.	*2023*

AWARDS

IST COE Award for Platform Modernization	*Morgan Stanley, 2023*
ESTAR Recognition Award for Exceptional Delivery	*Morgan Stanley, 2022*
Awarded E-SOP (Employee Stock Option Plan) for consistent performance	*LogisticsNow, 2021*