Aayushi

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Open to Relocate

Education

Arizona State University — Tempe, AZ **Aug 2023 – May 2025**
Master of Science in Computer Science *GPA: 3.96*
Relevant Coursework: Advanced Operating Systems, Cloud Computing, Distributed Database System, AI, Data Mining, Advanced Data Structures and Algorithms, NLP

Visvesvaraya Technological University — Bangalore, India **Aug 2015 – Jun 2019**
Bachelor of Engineering in Electronics and Communication

Experience

Software Developer, Knowledge Exchange for Resilience, ASU — Tempe, AZ **June 2024 – Present**

- Spearheaded the full-stack development of the Knowledge Alliance Tool (KAT), enhancing ASU faculty and community collaboration by designing an intuitive, frontend using **React v17** and a sclable backend with **C#, .NET 8** and **FastAPI** and **GCP**.
- Implemented interactive mapping, tagging, and advanced data manipulation features, including pagination, sorting, and filtering, to enable seamless navigation and content discovery.
- Optimized data retrieval processes using advanced indexing and query optimization techniques in PostgreSQL, reducing search latency by **20%**.
- Leveraged **Dapper** for high-performance data access, enabling efficient execution of parameterized queries and stored procedures while maintaining full control over raw SQL and tuning for performance-critical operations
- Implemented full-text search with advanced semantic matching and ranking algorithms, improving retrieval accuracy, relevance of recommendations, and overall user engagement by **40%**.
- Implemented RBAC with JWT to enforce secure, granular access across sections of the Knowledge Alliance Tool, ensuring robust authentication and authorization.

Application Development Senior Analyst, Accenture — Bangalore, India **Aug 2019 – July 2023**

- Designed and implemented features for a distributed MES Systems API using **C#, .NET 6** and **Azure (Functions, Service Bus, Cosmos DB)** to automate print job scheduling based on inventory levels, reducing stockouts by **30%**.
- Developed key features for **MES** dashboards using **React and .NET 6**, enabling real-time tracking of machine performance and production metrics, across all the production facilities(> 50), improving operational efficiency by **30%**.
- Spearheaded performance optimization efforts by refactoring **PL/SQL** stored procedures, reducing API response times from **30s to 10ms**, significantly improving application responsiveness.
- Implemented data partitioning and archiving strategies in **Postgres** to manage large datasets efficiently(> **1TB**), improving data retrieval times and reducing storage costs by **25%**, ensuring system scalability for growing datasets.
- Built CI/CD pipelines for automated deployment of containerized applications using **Azure DevOps and Docker**, reducing deployment cycles by **50%**.
- Developed a real-time application monitoring dashboard using Grafana and Prometheus, tracking application status and performance across **50+ servers**, resulting in an annual downtime reduction of **100+ hours**.

Projects

Distributed Job Scheduler |*C#, Redis, DynamoDB, Kafka, Docker, Kubernetes* **Dec 2024**

- Built a scalable distributed job scheduler using a C# backend integrated with Redis for task queuing, Amazon DynamoDB for state management, and Kafka for event-driven communication.
- Designed a fault-tolerant **master-worker architecture** with horizontal auto-scaling of worker nodes using Kubernetes
- Leveraged containerization (Docker) and orchestration (Kubernetes) to deploy and manage microservices across clusters, ensuring resilience, high availability, and **50%** faster task processing.

Image Recognition as a Service |*AWS, Flask, Python* **February 2024**

- Developed a scalable, serverless image recognition API using AWS Lambda, Flask, and S3, handling thousands of concurrent requests efficiently.
- Implemented auto-scaling for EC2 instances using SQS to efficiently manage fluctuating workloads, ensuring optimal performance under varying traffic conditions.

Skills

- **Languages:** C#, Python, C++, JavaScript, TypeScript, Bash
- **Databases:** PostgreSQL, MySQL, SQL Server, MongoDB, Dynamo DB, Redis, Elasticsearch
- **Frameworks/Libraries:** .NET Core, Entity Framework core, Dapper, LINQ, MVC, React, FastAPI, Flask, Next.js, Pandas, NumPy, Tensorflow
- **Developer Tools:** AWS, Microsoft Azure, GCP, Git, Docker, CI/CD, DevOps, Linux/unix, Kubernetes, Kafka