Mohammad Shadab

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Technical Skills

- **Database & NoSQL:** Couchbase (Administration, N1QL Query Optimization, Cluster Management, Performance Tuning)
  DevOps & Automation: Ansible, AutoSys, Shell Scripting (Bash), Unix/Linux System Administration
  Monitoring & Observability: Grafana, Prometheus, Custom Monitoring Solutions
  Tools & Platforms: Git/GitHub, Service Now, Tectia, Starfleet, CI/CD Fundamentals, Infrastructure as Code

Professional Experience

- **Tata Consultancy Services (TCS)** — Kolkata, India
  Platform Engineer - Couchbase Platform Team — *July 2024 – Present*
  - Architected and deployed automation workflows using AutoSys, Ansible, and Unix scripting, reducing manual operational overhead by **96%** and eliminating human error in cluster metric reporting (2 hours reduced to 5 minutes).
  - Led performance optimization initiative for production N1QL queries, achieving **60%** improvement across 16 critical long-running queries through index design, query rewriting, and execution plan analysis.
  - Executed large-scale data purge operations achieving **80%** reduction in data volume while maintaining uptime, improving resident ratios and cluster responsiveness with near-zero downtime.
  - Managed end-to-end Couchbase cluster lifecycle including POC creation, configuration management, scaling operations, and production deployment across multi-node environments.
  - Implemented comprehensive monitoring and alerting infrastructure using Grafana dashboards and custom Unix-based health check scripts, ensuring proactive incident detection and SLA compliance.

Projects

- **Production Ready Ansible Couchbase Cluster Automation** — *github.com/Shadab909*
  - Designed and implemented production-grade Ansible automation for Couchbase cluster prerequisites enforcement across multi-distribution Linux environments (Rocky Linux, Debian) with full idempotency.
  - Developed reusable Ansible roles for OS tuning (swappiness, NUMA, Transparent Huge Pages) with intelligent state detection, ensuring consistent configuration and minimizing unnecessary system restarts.
  - Implemented infrastructure-as-code best practices including role-based architecture, inventory management, handlers, and conditional task execution for repeatable and safe deployments.
  - *[In Progress]* Extending automation to include complete Couchbase installation, firewall port configuration, cluster initialization, node addition, and bucket creation workflows for end-to-end cluster deployment.

- **AI-Powered Development Environment (AgentlessCPP)** — *Personal Project*
  - Built full-stack agentic coding application with C++ backend leveraging llama.cpp for local LLM inference, featuring multi-agent collaboration with web search integration via DuckDuckGo API.
  - Architected stateless agent design using Manager LLM for orchestration without persistent memory, eliminating context window overflow and reducing hallucination risks through structured workspace metadata injection.
  - Implemented multi-agent experimental framework enabling parallel execution of varied solutions with critique-synthesis workflow, supporting configurable agent counts (2-10) with unique temperature seeds for diverse outputs.
  - Implemented REST API server with streaming capabilities, file system management, and grammar-constrained generation (GBNF) for structured LLM outputs with strict validation protocols.
  - Designed real-time web interface with JavaScript client for streaming responses, multi-file context injection, and dynamic model switching supporting CPU/GPU inference configurations.

Education

- **Jamia Millia Islamia** — New Delhi, India
  Bachelor of Technology in Electronics and Communication; GPA: 9.68/10 — *2020 – 2024*
- **Deoghar College** — Deoghar, Jharkhand
  Higher Secondary (Class 12) - PCM Stream — *2019*
- **Blue Bells School** — Deoghar, Jharkhand
  Secondary (Class 10); CGPA: 10/10 — *2017*