ADITYA GAMBHIR

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Summary

Data-driven software engineer with an M.S. in Computational Data Science and experience building scalable backend services, real-time dashboards, and cloud-native data pipelines. Combines strong analytical skills (Big Data, ML, spatial computing) with software craftsmanship (Java, Python, Node.js, React). Demonstrated communication and adaptability to deliver reliable, high-performance solutions in Agile environments.

Skills

Programming: Java, Python, C++, JavaScript / TypeScript, SQL, Bash

Backend & APIs: Spring Boot, FastAPI, Node.js, REST, GraphQL, Microservices, Integration APIs

Logistics & Infra: Docker, Git, GitHub Actions, Jenkins CI/CD, Linux (Ubuntu), AWS, Monitoring, Streamlit, Kubernetes (basic)

Databases: PostgreSQL, MySQL, MongoDB, SQLite

Frontend: HTML, CSS, React.js, Angular (basic), Next.js, Tailwind CSS, D3.js

Data / AI: Pandas, NumPy, Scikit-learn, Spark, Hadoop, TensorFlow, PyTorch, OpenCV

Practices & Soft Skills: Agile, Scrum, Unit Testing, JIRA, System Design, Load Testing, Collaboration, Communication, Adaptability, Problem-Solving, Leadership

Experience

Tech Mahindra   **Jun 2022 – May 2023**
Software Development Intern   *Pune, India*
- Designed and deployed a full-stack logistics simulation server with 15+ API endpoints for integration testing. This enabled over 500 developers to test their APIs more efficiently.
- Built scalable backend services in Java and Node.js for operational workflows, deployed via Jenkins CI/CD pipelines on Linux environments, improving integration test coverage by 40%.
- Developed custom authentication, error tracking, and API resilience logic to ensure reliable data pipelines.
- Streamlined contract generation and approval flow using React.js and backend automation, reducing manual cycle time by 35%.

C-DAC (Centre for Development of Advanced Computing)   **Jan 2022 – Jun 2022**
Research and Development Intern   *Remote*
- Built a backend service for real-time signal interpretation and dashboarding using FastAPI, PostgreSQL, and React.js.
- Implemented modular access control along with session logging and audit tracking to ensure security and compliance in a multi-user environment.
- Achieved 94.8% uptime under load by implementing robust error handling and observability instrumentation (logs + metrics).

Education

University of California, Riverside   **Sep 2023 – Mar 2025**
Master of Science in Computational Data Science   *GPA: 3.67/4*
Relevant Coursework: Big Data Management, Advanced Operating Systems, Database Systems, Artificial Intelligence, Machine Learning, Spatial Computing, Data Analytics

Projects

Navigate LA28: Real-Time Geospatial Navigation – *React.js, FastAPI, Spark, Docker, Hadoop* 🔗   **Sep – Dec 2024**
- Engineered a logistics orchestration tool simulating freight movement and container allocations in a port environment.
- Built custom backend modules in Java for load balancing, manifest generation, and fault-tolerant slot management.
- Automated workflow scheduling using Spark, AWS, and GraphQL APIs, achieving 25% faster turnarounds and 100% manifest accuracy under noisy input.

Dockership: Freight Ship Management System – *Streamlit, MongoDB, Docker, Pytest* 🔗   **Sep – Dec 2024**
- Built a scalable backend dispatch system with MongoDB for urban routing and vehicle placement with real-time spatial queries.
- Reduced routing latency by 30% using distributed Spark jobs and PostgreSQL spatial indexes.
- Integrated REST APIs with monitoring logic and retry queues, deployed on Linux servers via Azure, ensuring high uptime.

Publications

A Comprehensive Survey of Multiple Object Tracking Techniques [DOI]   **Mar 2024**
- Reviewed state-of-the-art object-tracking approaches and analyzed real-time algorithm performance.
- Outlined future research in detection latency reduction and high-density tracking precision.