Sandeep Hirani

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EDUCATION

Iowa State University — January 2024 – Expected May 2026
Master of Science in Computer Science — GPA: 3.85

Institute of Business Administration — August 2016 – June 2020
Bachelor of Science in Computer Science — GPA: 3.78

EXPERIENCE

Environmental Health and Safety Department, Iowa State University — Ames, IA
Graduate Student Full Stack Software Engineer — May 2024 – Present

- Built automated SDS ingestion and PDF parsing pipelines plus NFPA hazard-classification workflows, cutting manual SDS/hazard review effort by 50–60% while improving consistency across thousands of records.
- Led development of a campus-wide Chemical Inventory Management System (ASP.NET Core MVC, C#, SQL Server) tracking 30,000+ chemicals across 300+ labs, with safe workflows for intake, labeling, and transfers.
- Optimized SQL Server schema/indexing and complex joins to improve dashboard and inventory page performance by 40–55% and reduce long-running queries by 60%+ at peak usage.

Wellmark Blue Cross and Blue Shield — Des Moines, IA
Software Engineer Intern — May 2025 – August 2025

- Improved large-scale portals for 2M+ users using Node.js, Angular, and TypeScript, balancing feature delivery with accessibility and performance requirements.
- Resolved 25+ accessibility issues to reach WCAG 2.1 AA and collaborated cross-functionally to ship fixes across core user flows.

DGlobal — Karachi, Pakistan
Software Engineer II — August 2022 – December 2023

- Built backend services and admin tooling for a fintech platform (NestJS, GraphQL) and evaluated real-time delivery options to support event-driven systems at scale.
- Implemented a standardized gRPC layer and reusable libraries published to AWS CodeArtifact, improving service integration reliability and developer velocity.
- Automated CI/CD with GitHub Actions (semantic releases) and supported rapid iteration through architecture reviews and mentoring.

Airlift Technologies — Karachi, Pakistan
Software Engineer — March 2021 – July 2022

- Migrated 1M+ users to a multi-tenant authentication service with centralized logging, maintaining backward compatibility and zero downtime.
- Built high-throughput NestJS services with PostgreSQL/Redis/queues and production observability (tracing, dashboards) to support daily high-volume transactions.
- Reduced incident MTTR by 30% via structured logging standards, correlation IDs, and improved debugging workflows.

TECHNICAL SKILLS

- **Programming Languages:** TypeScript, JavaScript, C#, Python, Java, SQL, Bash
- **Frameworks and Libraries:** Node.js, NestJS, ASP.NET Core MVC, Spring Boot, React, Angular, Jest
- **Web Technologies:** REST, GraphQL, gRPC, Microservices, RBAC, OAuth/OIDC, JWT, WCAG/ARIA
- **Cloud and DevOps:** AWS (EC2, S3, Lambda, SQS, CloudWatch, CodeArtifact), Docker, Kubernetes, GitHub Actions, CI/CD
- **Databases:** SQL Server, PostgreSQL, Redis, DynamoDB, MongoDB, Elasticsearch, Query Optimization

PROJECTS

ChemiQuery – Natural Language to SQL for Chemical Inventory — GitHub

- Fine-tuned a T5 model on 500+ domain question–SQL pairs to achieve ~95% query accuracy with schema-aware generation and safe SQL execution pipelines.
- Built an agentic fallback workflow with LangChain and LangGraph to automatically correct invalid queries and retry, improving reliability for real users.