

# Mandadhi Bharathsimha Reddy

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## PROFESSIONAL SUMMARY

Software Engineer specializing in full-stack development, distributed architectures, and scalable backend systems. Demonstrated ability to design complex, data-intensive applications using Next.js, TypeScript, and PostgreSQL, with a strong focus on ACID compliance and immutable ledgers. Brings a distinct advantage with hands-on expertise in cloud-native infrastructure, deploying containerized applications (Docker) and automating CI/CD workflows on AWS.

## TECHNICAL SKILLS

**Languages:** TypeScript, Python, Java, SQL  
**Frontend & Desktop:** Next.js 16 (App Router), React 19, Tailwind CSS, Electron, Zustand  
**Backend & Databases:** Node.js, Express.js, PostgreSQL, Supabase (RLS/Auth), MongoDB, REST APIs  
**Cloud & DevOps:** AWS (EC2, S3, RDS, IAM, VPC, ALB), Docker, Kubernetes, GitHub Actions (CI/CD), Terraform  
**Tools & Systems:** Git, Debian Linux, Docker Compose, Postman

## PROFESSIONAL EXPERIENCE

**Freelance Software Developer** Remote, India  
*Project: DairyFlow (Supply Chain & FinTech Automation)* March 2026 – July 2026

**Context:** Commissioned to digitize a manual financial ledger for a local dairy business. Managed the end-to-end development lifecycle, actively adapting the system architecture to accommodate evolving client requirements.

- Architected a hybrid full-stack Next.js and Electron desktop application to digitize supply chain procurement with offline-first capabilities.
- Engineered an immutable financial ledger in PostgreSQL, utilizing PL/pgSQL stored procedures to enforce ACID compliance.
- Decoupled automated payout settlement logic using background SQL functions, eliminating manual cycle calculation time and enforcing strict financial invariants to prevent historical data mutation.
- Implemented rigorous Role-Based Access Control (RBAC) and Row Level Security (RLS) via Supabase Auth to secure API endpoints and strictly partition administrative data.
- Built a zero-dependency client-side jsPDF generation pipeline to assemble multi-page financial audit reports entirely in the browser, eliminating server bandwidth bottlenecks.

## PROJECTS

- Scalable Cloud Infrastructure & CI/CD Automation** | AWS (EC2, RDS, VPC, ALB), Docker, GitHub Actions
- Designed and deployed highly available cloud architecture using AWS EC2, Application Load Balancers, and Auto Scaling groups.
  - Configured secure VPC networking with strict IAM role-based access control, isolating database connectivity within private and public subnets.
  - Containerized legacy backend services with Docker and constructed automated deployment workflows using GitHub Actions CI/CD pipelines.
  - Integrated CloudWatch for centralized logging and infrastructure visibility, heavily improving deployment consistency and operational reliability.
- Self-Hosted Container Infrastructure Platform** | Debian Linux, Docker Compose, Kubernetes, YAML
- Built and maintained a self-hosted enterprise infrastructure platform on Debian Linux to run multiple containerized services simultaneously.
  - Managed container networking, persistent storage configurations, and system resource allocation across distributed Linux environments.

## EDUCATION

**Vellore Institute of Technology, Andhra Pradesh (VIT-AP University)** Amaravati, India  
*Bachelor of Technology in Computer Science and Engineering (Specialization in AI)* 08/2020 – 05/2024

- CGPA: 9.01/10

## CERTIFICATIONS

- AWS Certified Cloud Practitioner | NVIDIA Deep Learning Institute - Fundamentals of Deep Learning