Deepak Reddy Bondugula

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Summary

Skilled Computer Science Engineering graduate with a strong academic foundation in software development and object-oriented programming, and a hands-on approach to technology. Completed an internship at the Defence Research and Development Laboratory (DRDL), contributing to missile system testing and embedded software development. Demonstrated ability to build innovative projects using modern web and blockchain technologies, with a focus on reliable and secure systems.

Education

CVR College of Engineering — Hyderabad, India

Bachelor of Technology in Computer Science and Engineering — *Nov. 2021 – May 2025*

- CGPA: 8.83

Narayana College — Madhapur, India

Higher Secondary Education (MPC) — *Apr. 2019 – May 2021*

- Percentage: 96.8%

Experience

Intern — Jun. 2025 – Nov. 2025

*Soft Electronics Solutions (Vendor to **DRDL**)* — *Hyderabad, India*

- Developed a front-end dashboard for a missile simulation testbed using **Python**, enabling real-time visualization of missile testing data and embedded system performance.
- Built interactive data visualizations in Python to analyze simulation metrics, improving observability and test evaluation efficiency.
- Contributed to embedded systems firmware development for missile testing applications.
- Debugged and resolved software issues in embedded systems, achieving **99.9% system uptime** during testing phases.
- Collaborated with hardware and systems engineers to integrate software modules with embedded hardware for reliable system operation.

Projects

Smart City Trash Bin Monitoring Platform | *Kafka, Spark, FastAPI* — Dec. 2025 – Jan. 2026

- Built a real-time analytics pipeline processing 500+ events/min with **Kafka** and **Spark**, applying windowed aggregations, and watermarking to deliver ward-level waste metrics with <3s batch latency.
- Designed a production-grade backend using **FastAPI**, **PostgreSQL**, **Redis** and **Docker**, exposing secured APIs (analytics, risk, alerts, history) with JWT authentication, role-based access control, caching, and rate limiting, reducing database load by ∼60%.
- Implemented ward-level risk detection and alerting across 5+ wards, flagging critical conditions, and visualized insights via **Next.js** dashboards and **Leaflet** maps for decision-driven monitoring.

Decentralized Voting System using Blockchain | *Blockchain, Ethereum*

- Designed and developed a secure and transparent voting system leveraging blockchain technology to ensure immutability and prevent vote tampering.
- Implemented decentralized logic to eliminate single points of failure and improve trust in the voting process.
- Focused on data integrity and transparency, enabling verifiable and tamper-proof election results.

Technical Skills

Programming Languages: Python, Java
Core Concepts: Software Development, Object-Oriented Programming
Web Technologies: HTML5, React, Node.js, Web3.js, FastAPI
Databases: MySQL, MongoDB, Google Firebase, PostgreSQL
Blockchain Technologies: Ethereum, Truffle, Ganache, MetaMask
Developer Tools: Visual Studio Code, GitHub, Git
Operating Systems: Linux, Windows