DILEEP KUMAR ADARI

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Experience

Google Summer of Code 2025 | Joomla! CMS   **May 2025 – Sep 2025**
- Engineered a robust, end-to-end **workflow management** solution with a highly intuitive visual tool that simplified article stage management in Joomla CMS, consolidating a 6-7 page process into a single, unified interface.
- Spearheaded 2 concurrent projects including a plugin using Vue.js, PHP, and the Joomla Framework, significantly improving project delivery timelines by two weeks through proactive open-source collaboration and communication.

Undergraduate Researcher | SERC Lab, IIIT Hyderabad   **Apr 2024 – Present**
- Investigating the core principles of applied **human-centered design** and **human-computer interaction** under **Dr. Raman Saxena** to enhance user satisfaction and system usability within complex software environments.
- Implemented key, user-centric ERP system enhancements used by 4,000+ people by applying design thinking, usability testing, and accessibility best practices, streamlining workflows for over ten use cases and measurably improving user satisfaction.

Software Engineering Intern | Virtual Labs   **Jan 2024 – Apr 2024**
- Architected and developed a **VS Code Web Extension** using TypeScript, GitHub actions and Webpack to create the Virtual Labs Authoring Environment, streamlining the entire creation workflow for over 1,000 students.
- Drove the refinement of more than 10 product features by facilitating weekly client feedback sessions and fostering effective collaboration between technical and non-technical teams, delivering the project within a 70-day timeframe.

Web Administrator | IT Office, IIIT Hyderabad   **Aug 2023 – Present**
- Ensured high availability and reliability for **university websites** serving over 1,000 daily users through proactive, real-time system health monitoring and streamlined deployment pipelines, enabling rapid incident diagnosis and resolution.
- Diagnosed and resolved 20-50 technical issues per month, ranging from backend errors to performance bottlenecks, through systematic debugging minimizing downtime and maintaining service continuity for critical university web infrastructure.

Education

International Institute of Information Technology, Hyderabad   **Aug 2022 – Present**
Bachelor of Technology in Computer Science & Engineering with Honors   *Expected Graduation - May 2026*

Coursework: • Data Structures and Algorithms • Operating Systems and Networks • Database Management Systems
• Software Engineering • Information Security • Data Analytics • IoT • Embedded Systems • Computer Graphics

Projects

University Canteen Management (`Team Project | React js, FastApi, GraphQL`) [Source Code](#) — [Live Demo](#)
- Architected and built **CanteenX**, a scalable, full-stack web platform designed to support a complex ecosystem of multiple vendors, student accounts, and administrators to streamline food ordering and payments.
- Engineered a modular backend with FastAPI and GraphQL that transformed the ordering process from a manual queue into an intuitive order-ahead system, eliminating the 20-30 minute on-site wait for hundreds of students.

Smart Crop/Plant Monitoring (`Team Project | Flask, ThingSpeak, OM2M`) [Source Code](#) — [Live Demo](#)
- Developed **PlantIQ**, a sensor-driven monitoring system capable of detecting plant stress, water requirement and nutrient imbalances with 95% accuracy by analyzing real-time sensor streams to proactively alert farmers.
- Designed and implemented a real-time monitoring dashboard with intelligent alerts to provide actionable insights through intuitive data visualizations and predictive trend analysis, enabling decision-making to prevent crop loss.

Network File System (`Team Project | C, Concurrency, Networking`) [Source Code](#) — [Execution](#)
- Built a distributed, fault-tolerant **file system in C** from the ground up, implementing all networking and concurrency logic from scratch, utilizing TCP socket programming to ensure high data availability and consistency.
- Engineered replication, synchronization, and recovery mechanisms that enabled seamless, automatic failover to healthy replicas to handle server failures, achieving near-zero downtime and ensuring data integrity under heavy network stress.

Additional Projects [GitHub](#)

Tourism ToolKit • Smart Power Grid • Conference Booking API • Digital Library System • BlogNest • Finance Learning App • VoteArena • Trendify • ChatWrap • FaceBook Clone • Mess Inspection Tool • SplitMate • LifeBook • TimeTrack • Music Mania • PEC db • WebHunt • Enhanced Xv6 Shell • Mini Shell

Skills

Languages: Python, C, C++, JavaScript, TypeScript, PHP
Frameworks: FastAPI, Flask, React, Node.js, Next.js, Tailwind CSS
Clouds & Databases: SQL, MongoDB, Thingspeak, OM2M
Technologies: Docker, PM2, Nginx, Apache, WordPress, Joomla! CMS
Developer Tools: Git, Linux, phpMyAdmin, Postman, Arduino, VS Code

Known Languages
English, Telugu, Hindi

Interests / Hobbies
Music Enthusiast

Open Source Contribution

Achievements

Achieved a peak rating of 1300 (Pupil) on **Codeforces**.	
Selected for the **Google Summer of Code** 2025 program	May 2025 - Sept 2025
Chosen as a Teaching Assistant for the **Software Systems** course	Jan 2025 - May 2025
Led community engagement initiatives as the **Head of Social Media** for NSS-IIITH	June 2024 - Aug 2025