

MALIPEDDI SUDEEP

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RESEARCH INTERESTS & SUMMARY

Interested in systems research, with a focus on OS internals and computer networks. Drawn to problems that require understanding how things work at the implementation level.

SKILLS

Languages: Python, C, Java, JavaScript, SQL, Bash

Systems: Linux, REST APIs, Async task queues (Celery/Redis)

Backend: Flask, PostgreSQL, SQLAlchemy, Vue.js

CS Fundamentals: Operating Systems, Computer Networks, DBMS, Data Structures & Algorithms, Computer Architecture

PROJECTS

CHIP-8 Emulator C

[GitHub](#)

- Built a complete CHIP-8 interpreter in C implementing all 35 opcodes, memory-mapped display, keyboard I/O, and cycle-accurate timing, motivated by wanting to understand CPU fetch-decode-execute cycles and low-level memory layout at the implementation level.
- Resolved undocumented opcode ambiguities across ROMs by cross-referencing multiple technical references, which required reasoning carefully about undefined behavior in the original spec.

Service Sphere - Household Services Marketplace Flask · Celery · Redis · Vue.js · PostgreSQL

[GitHub](#)

- Built a multi-role web app (customer, professional, admin) with JWT auth and role-based access control; awarded S grade at IIT Madras.
- Designed an 8-table PostgreSQL schema covering users, bookings, service listings, and reviews; implemented async task queue with Celery and Redis for background jobs and email notifications.
- Debugged a stale-data issue caused by cache expiry lag between backend updates and API responses, which sharpened understanding of how caching and API contracts affect system correctness, not just performance.

Library Management System Flask · SQLAlchemy · Matplotlib · bcrypt

[GitHub](#)

- Flask web app with secure auth (bcrypt + Flask-Login), admin panel for managing books and sections, and Matplotlib dashboards for data visualization.
- Built CLI tooling for admin user management; used SQLAlchemy for all database operations.

WORK EXPERIENCE

Associate Analyst Deloitte, Hyderabad

May 2024 - June 2024

- Developed and tested workflow automations using the Integrify platform with JavaScript, HTML, and CSS.
- Tested REST APIs via Postman, verifying request/response contracts and integration across services.

EDUCATION

B.Tech, Computer Science & Engineering · MGIT Hyderabad

2021 - 2025

CGPA: 8.3 · Participated in hackathons and event organization

Diploma in Programming · IIT Madras BS Programme

2021 - 2025

Coursework: Python, Java, DBMS, Data Structures, Linux · S grade capstone project

Intermediate (MPC) · Narayana Junior College, Hyderabad

2019 - 2021

94.2%

ACHIEVEMENTS

- GATE 2026 CS - AIR 905
- PGEE 2026 - AIR 9
- Certifications: Full Stack Web Development with Flask, Getting Started with Linux, Diploma in Programming (IIT Madras BS Programme)