Sujal Raj

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LinkedIn | GitHub | LeetCode

3rd-year CS undergrad specializing in Cloud Computing, with hands-on project experience in backend development, computer vision, automation systems, big data pipelines, and algorithmic problem-solving.

EDUCATION

SRM Institute of Science and Technology, Ramapuram **Expected 2028**
B.Tech in Computer Science, Specialization in Cloud Computing
Cumulative GPA: 9.12/10

TECHNICAL SKILLS

Languages: Python, C++, Java (Basic), SQL
Frameworks & Tools: FastAPI, SQLAlchemy, Pydantic, Alembic, Docker, Git, GitHub Actions (CI/CD), Postman, Pytest, PySpark, Pandas, AI-assisted development
Databases: PostgreSQL (psycopg2, pgAdmin 4), MySQL
Concepts: Data Structures & Algorithms, OOP, DBMS, REST API Design, JWT/OAuth2 Authentication, Big Data Engineering, Cloud Computing (IaaS/PaaS/SaaS, Virtualization)

RELEVANT COURSEWORK

Data Structures and Algorithms; Object-Oriented Design and Programming; Operating Systems; Design and Analysis of Algorithms; Database Management Systems; Artificial Intelligence; Fundamentals of Cloud Computing

PROJECTS

Full-Stack REST API — FastAPI, PostgreSQL & Docker

- Designed and built a production-style REST API with FastAPI, SQLAlchemy ORM, and PostgreSQL, implementing full CRUD operations with Pydantic schema validation.
- Implemented secure user authentication with password hashing and JWT/OAuth2 token-based login, protecting routes and scoping data access to the logged-in user.
- Modeled relational data with foreign keys and a voting/likes system, using SQLAlchemy relationships and SQL joins for efficient querying.
- Managed schema changes with Alembic migrations, containerized the app with Docker/Docker Compose, and deployed to an Ubuntu VM using Gunicorn, Systemd, and NGINX with SSL/HTTPS.
- Wrote automated tests with Pytest (fixtures, parametrization, a dedicated test database) and built a CI/CD pipeline with GitHub Actions to run tests and deploy on every push.

Big Data Engineering — Web Log Analysis & Anomaly Detection

- Built an end-to-end PySpark pipeline on the NASA-HTTP server log dataset, from cluster setup through distributed parsing, traffic aggregation, and anomaly detection at scale.
- Produced an interactive HTML dashboard to visualize traffic trends, status code distributions, and detected anomalies for the analyzed dataset.

Midas — Second-Hand Marketplace Trust Platform

- Built a price-tracking platform integrating third-party APIs and computer vision to authenticate products and verify item provenance.
- Addressed information asymmetry in second-hand markets by surfacing verified pricing and product history to buyers.

CERTIFICATIONS

- NPTEL Silver Medal — "The Joy of Computing using Python"

ACTIVITIES

- Regular competitive programmer — solving problems across arrays, strings, trees, and graph traversal on LeetCode; LeetCode Problem Solving Gold Badge on HackerRank.
- Independently explores data manipulation and analysis using Python (Pandas), applied to real-world datasets.

INTERESTS

Competitive Programming, Backend Development, Cloud Computing, Big Data, Data Analysis, Problem Solving