

Mohit Anand

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EDUCATION

Indian Institute of Technology, Madras

2024 – 2028

BS in Data Science and Applications

CGPA: 9.51

- **Coursework:** Application Development, Data Structures and Algorithms, Database Management System, Deep Learning, Machine Learning, Object Oriented Programming

PROJECTS

Scratchpad - High-Performance Secure Ephemeral Data Service

[Github](#)

Backend Systems & Infrastructure | Go (Golang), PostgreSQL, Prometheus, Grafana, Docker / Podman Compose

- Architected a secure, concurrent web application in Go (standard library net/http routing) for sharing encrypted, self-destructing text snippets with parameterized expiry intervals.
- Built a custom Prometheus metrics subsystem on an isolated listener using private registries to expose bounded-cardinality endpoint latencies, request throughput, and active connection gauges.
- Hardened HTTP infrastructure implementing TLS 1.3-only configurations, CSP security headers, CSRF token validation (nosurf), and bcrypt password hashing.
- Managed PostgreSQL relational schemas and migration lifecycles via golang-migrate, optimizing connection pool parameters (max connections, idle lifetimes).
- Orchestrated a complete container stack using Compose to integrate the core service, PostgreSQL, Prometheus scraping, Grafana dashboards, and automated migration healthchecks.
- Implemented unit and integration test suites with zero-allocation mock fixtures and validated race-condition safety using go test -race.

Shuushoku Assen - Enterprise Recruitment & Placement Platform

[Github](#)

Full-Stack Web Application | Python, Flask, Vue 3, Vite, Celery, Redis, SQLite, Docker, Pytest

- Designed and built a multi-tenant university placement management portal featuring Role-Based Access Control (RBAC) across 9 blueprint modules for Admin, Company, and Student roles.
- Engineered an asynchronous distributed task pipeline using Celery and Redis to handle automated PDF report generation (WeasyPrint), periodic batch notification emails, and external webhook integrations (Google Chat).
- Implemented secure authentication with JWTs stored in HTTP-only cookies, CSRF double-submit protection, and Werkzeug password hashing.
- Developed interactive analytics dashboards in Vue 3 using Chart.js and Pinia for real-time visualization of placement funnels and recruitment pipelines.
- Containerized the multi-service architecture using Docker Compose (reverse-proxied via Nginx) and authored an automated test suite of 204 unit and integration tests achieving comprehensive API endpoint coverage in Pytest with isolated in-memory test databases.

SKILLS

Languages : Python, Go, Rust, JavaScript, TypeScript, SQL, Bash

Cloud & DevOps : Docker, Podman, Nginx, Git/GitHub, GitHub Actions (CI/CD), Linux/Unix

Observability & Monitoring: : Prometheus, Grafana, Logging & Telemetry

Frameworks & Web Tech : FastAPI, Flask, Vue.js, RESTful APIs

Databases & Caching : PostgreSQL, SQLite, Redis, SQLAlchemy

Developer Tools & Practices : AI-Assisted Development (Opencode, Gemini), Unit Testing, TDD, Agile