MRINAL KUMAR SINGH

Chennai, TN | me@mrinal.codes
linkedin.com/in/smrinal/ | github.com/smrinal310 | mrinal.codes

EDUCATION

Indian Institute of Technology, Madras Chennai, TN
B.S. Data Science & Applications | CGPA 9.1/10.0 Expected Sept 2027
Relevant Coursework: System Commands (Linux), DBMS, Programming & Data Structures, Application Development I & II, Java

EXPERIENCE

Centre for Outreach and Digital Education, IIT Madras Chennai, TN
Software Engineering Intern, Seek Team *Jan 2026 - Present*

- Built a standalone Event Service to ingest and log all student actions across the platform, currently handling the daily activity of 40,000+ active users while remaining isolated from the core application path to protect system reliability.
- Added automated linting into the service's CI pipeline using Ruff, running as a blocking check on GitHub Actions that gates merges on lint failures.
- Actively maintaining and enhancing the core LMS by developing new platform features and resolving high-priority bugs.
- Designing and developing the upcoming Admin Portal, building administrative tools and analytics views to give internal teams operational control over user data and system metrics.

Indian Institute of Technology, Madras Chennai, TN
Teaching Assistant, System Commands [SE2001] *Oct 2025 - Present*

- Teach Linux shell fundamentals to 200+ students: process management, file permissions, I/O redirection, text processing, and shell scripting. Debug student environment and command-line issues in weekly office hours.

Teaching Assistant, Python [CS1002] *Oct 2024 - May 2025*

- Supported 400+ students through object-oriented programming and algorithm implementation via weekly office hours and small-group tutorials.

PROJECTS

ParkEz, Parking Reservation Platform *github.com/smrinal310/parkEz* | *parkez.mrinal.codes*
Flask · Vue 3 · PostgreSQL · Celery · Redis · Docker · Nginx · AWS EC2

- Built a full-stack parking reservation system as a coursework project, with user booking and checkout flows, admin management of parking lots, and scheduled email reminders and monthly reports.
- Containerized the backend with Docker and deployed it on an AWS EC2 instance running Ubuntu, behind Nginx as a reverse proxy with systemd supervising services and restarting them on failure.
- Tuned Gunicorn and Celery to run the API, background worker, scheduler, and database together within a 1 GB t3.micro instance.

Placement Portal, Campus Recruitment Management System *github.com/smrinal310/placement-portal*
Flask · Vue 3 · Pinia · SQLAlchemy · Celery · Redis · Docker

- Built a three-role portal (students, companies, admin) as a coursework project, covering the campus recruitment lifecycle: drive creation with eligibility criteria, applications, approval workflows, and placement statistics.
- Implemented JWT authentication with role-based access control across the API, Redis caching with targeted invalidation, and Celery jobs for scheduled reminder emails, monthly reports, and async CSV exports.
- Set up the development toolchain: Makefile task targets, uv for dependency management, ruff linting with security rules enabled, and a containerized MailHog instance for local email testing.

Quiz Master, Multi-User Quiz Management Platform *github.com/smrinal310/quiz-master* | *quiz.mrinal.codes*
Flask · Jinja · Supabase · Vercel

- Built a course-based quiz platform as a coursework project, with admin-controlled subject, chapter, and question management, and per-user quiz attempts and scoring.
- Deployed on Vercel with automatic builds on push to main, backed by a managed Postgres instance on Supabase.

TECHNICAL SKILLS

Cloud & Infra: AWS EC2, security groups, Nginx, systemd, Docker, Docker Hub
Systems: Linux, Bash scripting, SSH, tmux, Vim
Networking: IP/ports, DNS, HTTP/HTTPS, reverse proxy, TLS
CI / Tooling: Git, GitHub, GitHub Actions, Ruff, Make, UV, Bun
Backend: Django, Flask, Gunicorn, Celery, PostgreSQL, Redis, REST APIs
Languages: Python, JavaScript, SQL, Bash