

Kasinath C A

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EDUCATION

Vellore Institute of Technology

Integrated M.Tech in Computer Science and Engineering – Data Science

Vellore, Tamil Nadu

July 2024 – August 2029

EXPERIENCE

Software Development Intern – Capacity Building

May 2026 – July 2026

Delhivery Limited

Bengaluru, Karnataka

- Worked with cross-functional teams to plan and engineer a rider engagement platform for approximately 58,000 delivery partners, translating campaign rules, rider behavior, field constraints, and operational goals into product requirements and UI flows.
- Designed a scalable layered architecture spanning the rider-facing WebView, REST/API middle layer, backend services, and PostgreSQL data model; kept business-critical contest, attendance, leaderboard, training, reward, and session logic authoritative outside the browser.
- Built Dockerized Python/Flask services with SQLAlchemy, Alembic, PostgreSQL, and data-processing workflows for rider metrics and campaign state; supported deterministic development datasets scaling from 500 to 58,000 riders across 14-day simulations.
- Worked end-to-end across UX prototyping, responsive frontend integration, backend APIs, data validation, and engineering handoff; iterated with multiple teams on campaign mechanics, usability, rollout requirements, and rider-facing communication.

Data Maintainer – FFCS-inator (Open Source)

October 2025 – Present

Vellore Institute of Technology

Vellore, Tamil Nadu

- Maintained timetable/faculty datasets with 100% Winter 2025 data accuracy and refactored TypeScript slot structures used for clash-free schedule planning.

Undergraduate AI/ML Research Intern

March 2025 – June 2025

Vellore Institute of Technology

Vellore, Tamil Nadu

- Built a Dockerized CVAT/SAM annotation pipeline for 500+ proprietary food images, reducing manual polygon-labeling time by approximately 40%; optimized YOLO class boundaries and dataset QA for calorie-estimation experiments.

PROJECTS

Mind Palace – Bookmark Manager | *React, TypeScript, Node.js, PostgreSQL, Redis*

2026

- Built a production-style full-stack content-preservation platform with a React/TypeScript SPA, Node.js REST API, PostgreSQL/Redis, archived copies, link-health monitoring, Docker, CI, and Playwright E2E workflows. [\[GitHub\]](#)

Sentinel AI – Intelligent Video Security Platform | *FastAPI, Computer Vision, PostgreSQL, Docker*

2026

- Designing a modular video-intelligence system with a separate AI inference worker for detection/tracking, intrusion, loitering, crowd and violence events, evidence capture, alerting, camera health, and operator acknowledgement.

Forest Ranger – Edge AI Acoustic Sensor | *ESP32, TinyML, TensorFlow Lite, I2S*

2026

- Built an ESP32/INMP441 on-device chainsaw detector using an Int8 MFE-CNN; achieved 1 ms inference, 40.3 kB model footprint and 100% held-out validation accuracy, and designed the solar/LoRaWAN distributed deployment architecture. [\[GitHub\]](#)

Intent-Aware API Security System | *FastAPI, scikit-learn, ECDSA P-256*

2026

- Built identity/API middleware combining ECDSA P-256 challenge-response with Isolation Forest behavioural anomaly detection across timing, location, velocity and payload signals; simulated credential stuffing, SS7 hijacking and scraping. [\[GitHub\]](#)

TECHNICAL SKILLS

Languages: Python, Java, C/C++, SQL (PostgreSQL, Oracle PL/SQL), TypeScript, JavaScript, HTML/CSS, R, $\text{\LaTeX}$

Frameworks: Flask, FastAPI, React, Node.js, Express, SQLAlchemy, Prisma, Tailwind CSS

Developer Tools: Git, Docker, GitHub Actions, Playwright, pytest, Alembic, CVAT, Google Cloud Platform, VS Code

ML/Data & Databases: PostgreSQL, Redis, MongoDB, scikit-learn, pandas, NumPy, Matplotlib, YOLO, SAM, TensorFlow Lite, TinyML