Pranav Karawale

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PROFESSIONAL SUMMARY

An entrepreneurial Computer Engineering student and co-founder developing scalable SaaS platforms, AI/ML models, and secure IoT systems.

SKILLS

Core Proficiencies:
Python
TypeScript, Node.js / Next.js
AWS (EC2, S3, Elastic Beanstalk)
Docker (+ Traefik) & Container Orchestration
Raspberry Pi & Embedded Linux
FastAPI & RESTful API Design

Familiar With:
Go, Rust, Bash/Shell, React, Svelte, PostgreSQL, MongoDB, MySQL, SQLite, Terraform, Prometheus, Grafana, Loki, TensorFlow, YOLO, OpenCV, LoRaWAN, STM32, ESP32, Arduino, IoT Security, Basic Cryptography, BDD/TDD, Agile (Scrum), Git

PROFESSIONAL EXPERIENCE

Pravideon Pvt. Ltd.

Jan. 2024 – Present
(operated as freelancers until company incorporation in Oct. 2024)
Navi Mumbai, India

Director & Co-Founder

Co-founded a technology company to build and deliver complex software solutions, from scalable SaaS platforms to novel AI systems.

- Architected and led development of a multi-tenant SaaS ERP/CRM for the LPG industry and an autonomous fire suppression system using computer vision (mAP@0.50 = 0.77).
- Engineered a fully automated DevOps infrastructure using Docker and Traefik, with a robust observability stack (Prometheus, Grafana, Loki) for zero-downtime deployments.
- Developed a metadata aggregator processing 15 million court records, a mobile colour-matching app with 96% factory accuracy, and a scalable AWS backend for an LMS serving over 200,000 questions.

Avignon Université

Jun. 2025 – Aug. 2025
Avignon, France

Summer Research Intern

Pioneered a novel security approach for the LoRaWAN protocol, with results co-authored for a forthcoming IEEE conference paper.

- Resolved critical MAC layer vulnerabilities by integrating ChaCha20-Poly1305 AEAD cryptography.
- Built a complete hardware testbed with STM32 microcontrollers to benchmark a 10x speed increase and a 90% reduction in energy consumption.

Freelancing

Apr. 2023 – Dec. 2023
Remote

Software Engineer

Contributed to the development of a framework for creating customizable AI agents for advisory and planning applications.

- Designed and implemented a proprietary web framework using React components for complex prompting logic, knowledge management and various third-party APIs to refine AI agent performance.

EDUCATION

University Of Mumbai

Nov. 2022 – Jun. 2026

B.E Computer Engineering

PROJECTS

AccessEye

Automatic license plate recognition and entry management system achieving <700ms inference on a Raspberry Pi Zero 2 W using Python, YOLO, and FastAPI.

Aetherline

AI-based digitization software and smart knowledgebase for P&ID diagrams, built with Python, OpenCV, Tesseract, YOLO, and Next.js.

Bratify

Album art generator inspired by Charli XCX's "BRAT" design, written in Svelte and handling over 50k monthly visits.

Rosette & Ixora

Built developer tools in TypeScript including a library to leverage Notion as a headless CMS and a CodeMirror 6 extension for a WYSIWYG editor experience.

ACHIEVEMENTS & LEADERSHIP

Gold Medallist, JuniorSkills India 2021 (Web Technologies)
Winner, Echelon '25 Hackathon (AI P&ID Digitization)
Technical Head, ACES ViMEET and Technical Lead, GDG VIMEET (2024/25)
OSS Contributions: Astro, core-js, smaller open-source projects