OMKAR DATTATRAY PAWAR

Robotics & AI Automation Engineer

@ omkardpmain@gmail.com   📞 8806125058   in omkar-dattatray-pawar   ⌑ agent-loop

EXPERIENCE

AI & ROBOTICS INTERN
INDIAN ARMY

📅 May 2025 – July 2025   📍 AI LAB, MHOW, MP

- Designed and developed a **fully autonomous drone without GPS dependency**, enabling navigation in GPS-denied environments.
- Implemented **ROS 1 Noetic** with a stereo camera setup for **Visual-Inertial Odometry (VIO)** to achieve precise localization.
- Built and deployed an **AI-based path planning and navigation system**, integrated seamlessly with the drone for real-time autonomous flight.
- Conducted full-stack integration of hardware, ROS modules, and AI models to ensure reliable and robust drone autonomy.

Programming Lead
Namo Nirvana (Robotics & Innovation Team)

📅 2024 – Present   📍 VIT Chennai

- Leading a multidisciplinary team focused on building **robots, autonomous systems, and automation projects**.
- Directed the development of an **Defense Autonomous Rover** for outdoor navigation, exploration, and mission capabilities.
- Led the deployment of an **Underwater ROV - AURA** with advanced control and sensing capabilities.
- Guided the team to win **multiple robotics competitions - Robofest Gujarat 2024, VITSH 2024** through innovative design and efficient execution.

EDUCATION

B.Tech Electronics & Computer Engineering
Vellore Institute Of Technology, Chennai

📅 Aug 2023 – May 2027

12th Standard - 87.6 %
Army Public School, Kirkee

📅 June 2022 – March 2023

10th Standard - 94.8 %
Army Public School, Kirkee

📅 June 2020 – March 2021

MAJOR PROJECTS

Non GPS Autonomous Drone
- Implemented VIO using Stereo - Vision and AI Path Planning.

Defense Rover
- 6 Wheel Drive Rover with LiDAR and OpenCV for Automaticity .

Under Water ROV
- Strategically Made 6 Thruster based Controlled ROV .

Sun Tracking Solar Panel
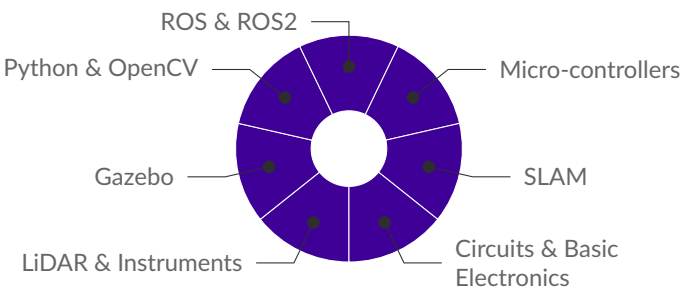- Solar Panel which always faces Sun at all time.

Agricultural Bot
- A bot to pick apples from tree using 3D printed Elements .

Line Followers & Maze Solvers
- Fast, accurate line followers and maze solvers using PID.

STRENGTHS

ROS & ROS2 · Python & OpenCV · Micro-controllers · Gazebo · SLAM · LiDAR & Instruments · Circuits & Basic Electronics

OTHER SKILLS

Skill	Rating
Embedded Programming	●●●●●●
Java & C++	●●●●●◐
KiCad	●●●●◐○
LTSpice	●●●●●○
Linux	●●●●●○
Leadership	●●●●●○
Problem-Solving	●●●●●◐