

Mukul Dharpure

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Bangalore, India

SUMMARY

Operations Manager and Senior Commissioning Engineer with 5+ years experience in deploying and validating autonomous forklifts, AMRs, and industrial robots at **Fortune 500** manufacturing and warehouse facilities across **Singapore, Thailand and India**. Managed cross-border project delivery for **Ford Motors, Caterpillar, Coca-Cola and L&T** owning client relationships, project budgets, vendor negotiations, and engineering teams. Scaled an autonomous fleet from **0 to 35+ robots across 10 cities**, took **2 products** from concept to commercial launch, and maintained **95%+ fleet uptime** across all deployments. Experienced working across international teams, cultures, and time zones.

TECHNICAL SKILLS

- **Robotics & Middleware:** ROS, ROS 2, navigation stack (Nav2), system integration and commissioning, field debugging, robot networking.
- **Debugging & Programming:** Python (test scripting, system-level debugging, log analysis), C++ (basic, ROS 2 code reading and debugging).
- **Simulation & Validation:** Gazebo (environment simulation, path-planning validation, obstacle and scenario testing), RViz (real-time robot state visualization, nav stack debugging).
- **DevOps & Version Control:** Git, GitHub, Docker, containerized deployment.
- **Sensor QA & Calibration:** LiDAR validation and calibration (SICK Safety), depth camera setup and validation (Percipio), IMU validation, wheel encoder and odometry accuracy validation, hardware initialization and validation.
- **Testing & QA:** Site Acceptance Testing (SAT), UAT, performance validation, latency and reliability measurement, uptime and reliability metrics.
- **Hardware & Product Development:** Fusion 360 design review, Li-ion/LiFePO4 battery pack specification, BMS selection, charging and docking system evaluation.

MANAGEMENT SKILLS

- **Product Management:** Product lifecycle management, market research, competitive analysis, UAT, go-to-market execution.
- **Operations:** Fleet deployment and scaling, SOP documentation, operator training, customer handover, data-driven performance optimisation.
- **Project & Budget Management:** End-to-end project delivery, budget oversight, resource allocation, vendor negotiations, procurement, risk mitigation.

PROFESSIONAL EXPERIENCE

Botsync Pvt Ltd.

Bengaluru, India

Senior Commissioning Engineer

April 2025 – March 2026

- Owned end-to-end project delivery for warehouse automation deployments at **Ford Motors (Thailand), Coca-Cola India, and Caterpillar Inc. (Singapore)**, serving as the single point of contact for operational readiness, project scheduling, risk mitigation, and cross-functional coordination.

- Managed vendor relationships and procurement of hardware components, coordinating with integration partners to keep deployments on schedule delivering the **Ford Motors** project in **3 months** and the **Caterpillar Singapore** deployment in **15 days**.
- Performed robot bring-up and commissioning using **ROS**, validating the navigation stack, perception pipeline, safety systems, and AprilTag-based docking across Body Shop, Paint Shop, and warehouse environments in live production settings.
- Executed **SICK Safety LiDAR** and **Percipio camera** calibration and validated localization, obstacle detection, and path planning accuracy supporting **14 trips/hour throughput** across **2 automated production shifts** at Ford Motors Thailand.
- Chaired weekly steering meetings with plant operations, safety, QA, and external vendors; delivered KPI reports to senior stakeholders and resolved cross-team escalations across **3 concurrent Fortune 500 accounts**.
- Partnered with software and hardware engineering teams to reproduce field issues, validate fixes, and ship patches to live environments with zero unplanned production downtime.

Flo Mobility Pvt Ltd.

Bengaluru, India

Operations Manager

February 2022 – March 2025

Product Management & Product Launch:

- Led full **product lifecycle of 2 commercial products autonomous material-handling robots and autonomous lawnmowers** from market research and prototyping through to commercial launch.
- Directed **development of the Robot Fleet Management System** with a 2-engineer team; defined acceptance criteria, oversaw workflows, and completed full UAT cycle, enabling operational oversight of the entire fleet.
- **Built and deployed a trip-data analytics** platform **capturing robot performance** metrics, improving visibility into daily operations and enabling data-driven maintenance decisions.
- Conducted **market analysis** and competitive benchmarking to **shape product strategy and identify opportunities in industrial and agricultural robotics**.

Operations & Deployment:

- Scaled **autonomous and semi-autonomous robot fleet from 0 to 35+** robots across **10 cities** and multiple enterprise sites including L&T, Godrej Properties, Sobha, and K2K (leading Indian industrial and real estate conglomerates with \$1B–\$20B+ annual revenues).
- **Maintained 95%+ fleet uptime across all deployments** through proactive maintenance scheduling, SOP development, and real-time operational monitoring.
- **Managed a 4-engineer cross-functional team**, hiring team members, defining priorities, driving prototyping cycles, and making go/no-go decisions at each development gate.

Business Development & Stakeholder Engagement:

- **Represented Flo Mobility at GITEX Global 2022 (Dubai) and Bangalore Tech Summit 2024**, engaging with international investors, government officials, and enterprise customers.
- Initiated **strategic partnerships with mobility providers** to **expand market presence** and support business development.

- **Presented to C-suite and VP-level stakeholders at enterprise clients**, delivering project updates, operational dashboards, and business cases for fleet expansion.

Project Head

September 2021 – January 2022

- Led end-to-end development of a **semi-autonomous power tiller** full product lifecycle from concept definition and prototyping to **field validation, coordinating engineering, design, and testing teams**.

Trainee

December 2020 – August 2021

- **Designed a micro-mobility deployment strategy** for a European university campus, optimizing scooter placement, routing, and utilization through behavioral analysis and demand modeling.
- **Initiated strategic partnerships with mobility providers** to expand market presence in tier-1 Indian cities, supporting Flo Mobility's early business development and ecosystem expansion efforts.

Personal Projects

- **Mission Debug:** Developed a local-first **ROS 2 robot debugger** (Python, FastAPI, React) that records a rolling 60-second buffer, **auto-detects faults like stalls and path deviations, and replays synchronized video**, telemetry, and pose data for root-cause analysis. [\[Project Link\]](#)
- **Sales Ops:** Developed an **open-source AI sales-development pipeline** (Node.js, Playwright, Claude Code) that automates prospect discovery, account qualification, and personalized outreach drafting while keeping a human-in-the-loop, never-auto-send workflow. [\[Project Link\]](#)
- **ComplianceOS:** Developed an AI-driven EU AI Act compliance platform that automates risk classification, obligation assessment, and **regulatory document generation for AI-building companies**, offered as a **freemium SaaS product**. [\[Project Link\]](#)

Education

S.B. Jain Institute of Technology

Nagpur, India

Bachelors of Engineering in Information Technology

June 2016 - November 2020

- **Relevant Coursework:** Natural Language Processing (NLP) - Advanced Machine Learning Techniques for Developing Intelligent Language Understanding Systems, Focusing on Computational Linguistics and AI-Driven Language Comprehension.
- **Project:** Developed Automated Attendance Tracking System using Python OpenCV by Implementing Advanced Computer Vision Techniques for Intelligent Image Capture and Recognition.