VISVESVARAYA TECHNOLOGICAL UNIVERSITY

"Jnana Sangama" Belagavi – 590 010

PROJECT REPORT ON

"DRONE INVENTORY MANAGEMENT FOR RESOURCE MAPPING"

Submitted in partial fulfillment of the requirements for the award of degree

BACHELOR OF ENGINEERING IN

ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING

Submitted By

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Shobhavana Campus, MIJAR-574225, Moodbidri, D.K., Karnataka

2023 – 2024

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CERTIFICATE

This is to certify that the Project entitled "DRONE INVENTORY MANAGEMENT FOR RESOURCE MAPPING" has been successfully completed by

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the bonafide students of **Department of Artificial Intelligence & Machine Learning, Alva's Institute of Engineering and Technology** in partial fulfillment for the award of BACHELOR OF ENGINEERING in **DEPARTMENT OF ARTIFICIAL INTELLIGENCE & MACHINE LEARNING** of the **VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI** during the year 2023–2024. It is certified that all corrections/suggestions indicated for Internal Assessment have been incorporated in the report deposited in the departmental library. Theproject report has been approved as it satisfies the academic requirements in respect of Project workprescribed for the Bachelor of Engineering Degree.

29/04/2024

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ABSTRACT

Inventory management is a critical aspect of logistics and supply chain operations, with efficiency and accuracy being paramount. Traditional methods often face challenges such as manual errors, time-consuming processes, and limited scalability. This paper presents a novel approach to inventory management leveraging mini-drones equipped with sensors and communication modules. The architecture integrates drone flight control, sensor data acquisition, data processing, and inventory database management to enable real-time tracking and management of inventory items within a warehouse environment. A proof-of-concept implementation demonstrates the feasibility and benefits of this approach, showcasing how mini-drones can autonomously navigate warehouse spaces, collect inventory data, and update inventory records in a centralized system. The results highlight significant improvements in inventory accuracy, speed of data collection, and operational efficiency, paving the way for enhanced inventory management practices in modern logistics ecosystems.