ALFC
Automated Loose Fruits Collector

The Automated Loose Fruits Collector (ALFC) is a cutting-edge robotic solution that uses AI-powered vision, deep learning, and high-speed delta mechanics to redefine efficiency in oil palm plantations. Designed for precision, speed, and scalability, the ALFC boosts productivity while reducing labour costs, empowering the future of smart agriculture.

Overview

The Automated Loose Fruits Collector (ALFC) is a state-of-the-art robotic innovation engineered to transform how loose fruits are collected in oil palm plantations. Leveraging advanced computer vision, deep learning intelligence, and a high-speed delta robotic arm mounted on a robust mobile platform, the ALFC delivers unmatched accuracy, efficiency, and productivity in loose fruit collection.

This advanced automation system reduces reliance on manual labour while also guaranteeing consistent performance across large plantation terrains, making it a highly efficient, cost-effective, and sustainable solution for scalable agriculture.

Key Features

- **Oil Palm Loose Fruits Detection Using Visual Sensor**
  AI-powered vision accurately identifies the real-time count, size, and location of loose fruits.

- **Delta Robot Mechanism for Precision Collection**
  Fast, accurate, and gentle collection preserves plants and maximises yield.

- **Vacuum Collection System**
  An efficient suction system ensures smooth, low-damage fruit transfer to storage.

- **Mobile Robot Platform**
  Seamless navigation enables large-scale, consistent, and efficient fruit collection.

Technology Benefits

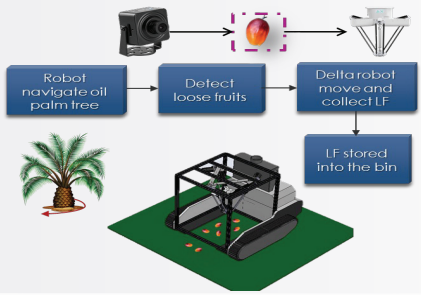
- **Optimised Harvesting with Efficient Collection**
  Integrating advanced vision and deep learning with a delta robotic arm enables fast, precise, and autonomous loose fruit collection, ensuring minimal loss and optimal efficiency.

- **Scalable Automation for Large Operations**
  This mobile robotic platform offers a smart navigation system for plantations, leading to reduced manual labour, enhanced productivity, and the scalability necessary for extensive operations.

- **Sustainability**
  Streamlined collection reduces waste and supports eco-friendly, sustainable farming practices.

Applications

- **Large Plantations**
  Best for big estates where manual collection is slow and costly
- **Areas with Labour Shortages**
  Replaces the need for many workers.
- **Hilly or Uneven Terrain**
  The mobile robot works well where it's hard for workers to move
- **Tech-Driven Farms**
  Fits perfectly into plantations already using drones, sensors, or AI.
- **Sustainable Farming**
  Supports goals to minimise labour, improve consistency, and reduce waste.



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