

# Horn Bill

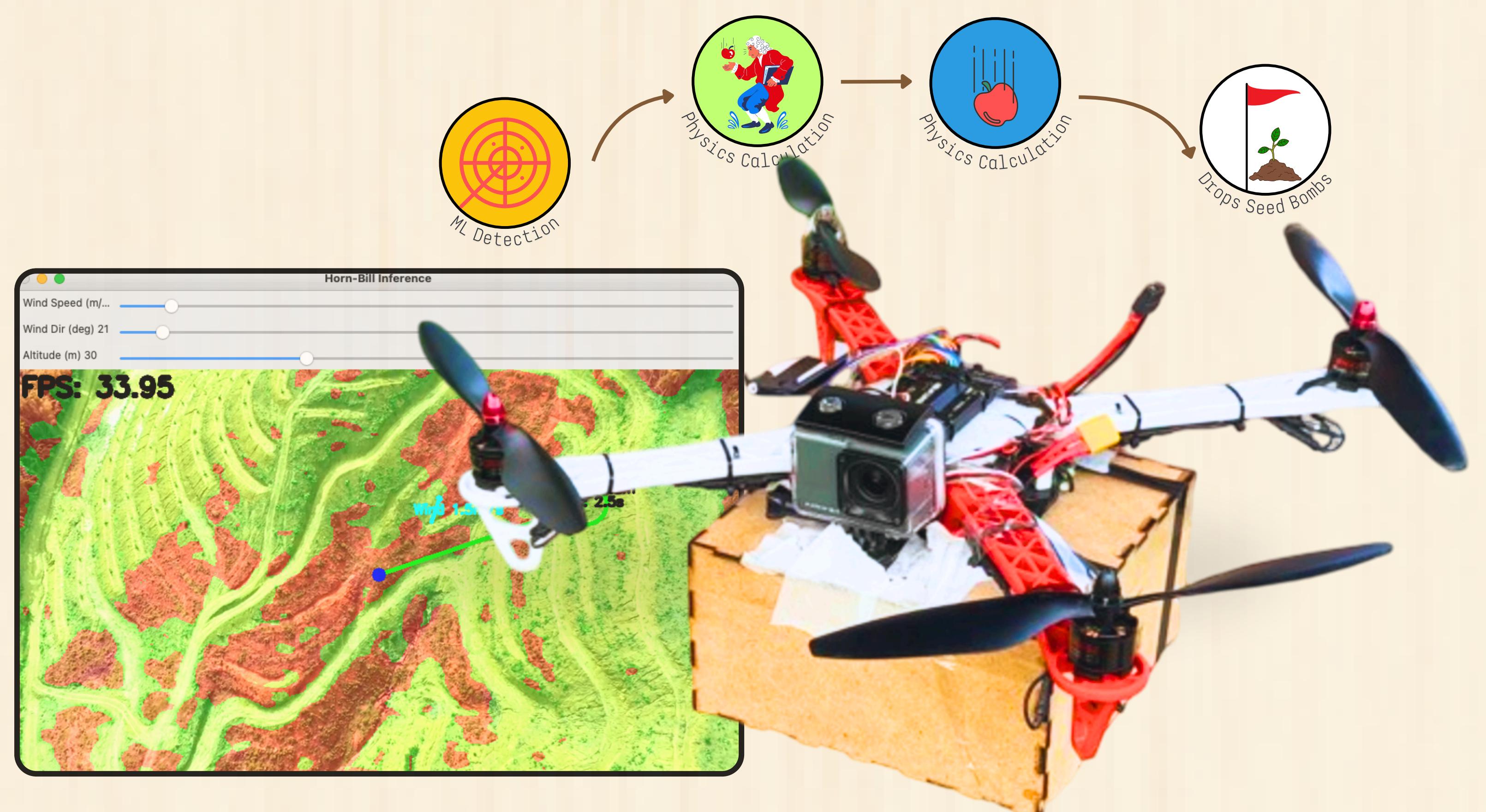


## AI-POWERED AUTONOMOUS REFORESTATION DRONE

Identifies canopy gaps, calculates wind drift, and plants seeds all autonomously.

### The Drone

- Flight Modes:** Manual & Autonomous (ArduPilot support)
- Payload Capacity:** 1.5 kg
- Endurance:** ~25-30 minutes per flight
- Stabilization System for accurate drops
- Detachable wing and modular frame for easy transport



### Payload System

Custom-CNC Smart Seed Dispenser

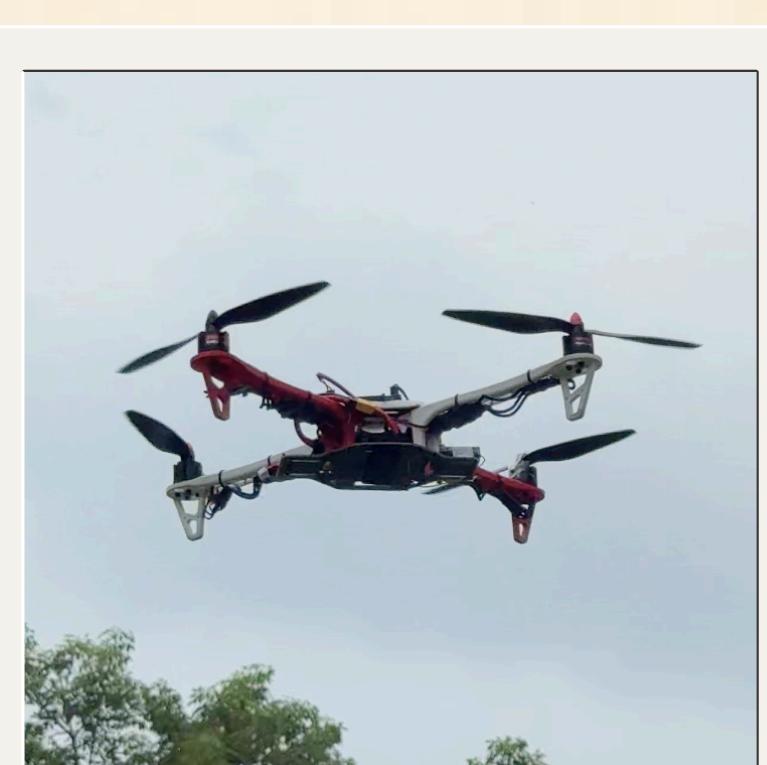
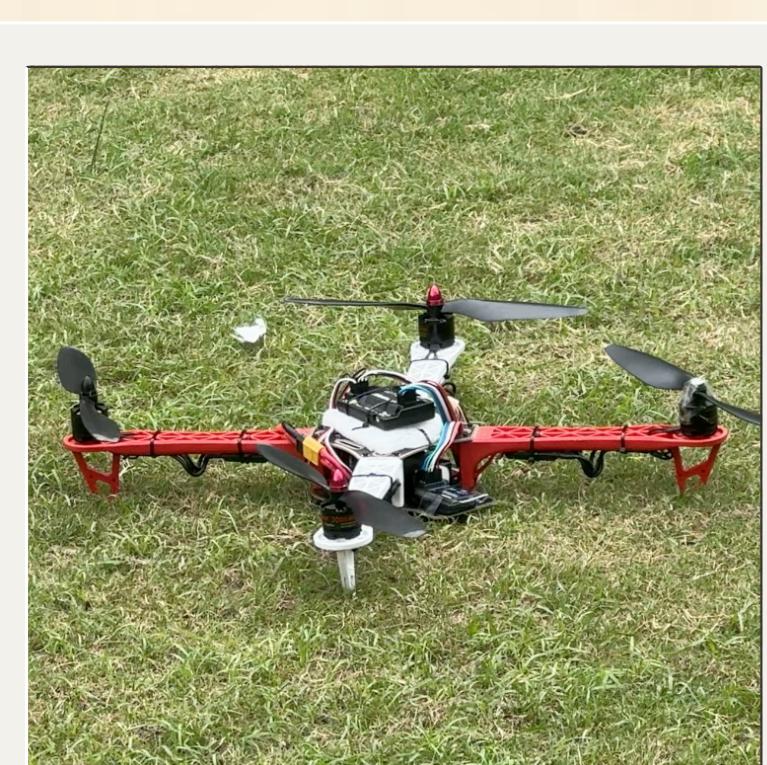
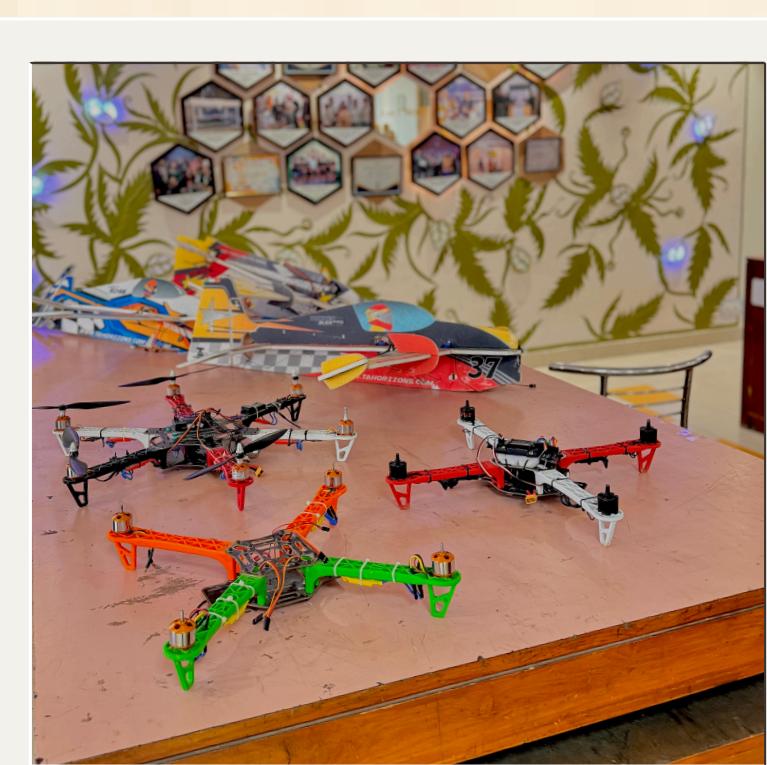
- CNC-cut :** detachable wooden box with aerograde mount
- Integrated **Raspberry Pi** with **AI**-based inference
- Lever-action **servo gate** drops seed only at valid coordinates
- Easy **plug & play** design for rapid deployment



### The Seed Bomb

Eco-Engineered for Precision Germination

- Weighted Clay Shell:** resists wind drift and propwash for accurate landing
- Biodegradable & Eco-Safe:** breaks down naturally, leaving no waste
- Moisture-Retaining Core:** hydrogel and compost keep seeds alive until germination
- Impact-Triggered Dispersion:** seeds spread evenly on ground contact



- Impact Potential**
  - 1,000+ seeds planted per flight
  - 90% drop accuracy
  - Covers 50 acres/day with multiple drones
  - 100% biodegradable payload



Inspired by the **Great Hornbill bird**, known for dispersing seeds across forests, our drone **mimics nature's own reforestation method only faster**, and at scale.