Fly High

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The Problem we want to solve:

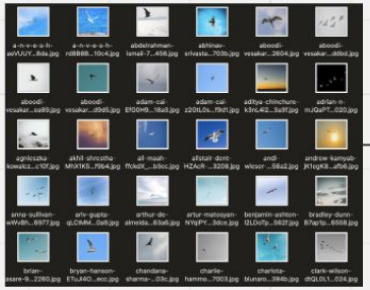
- Wind Farms or Airports, while crucial for green energy and urbanization, pose risks to bird populations
- Endangered birds are particularly vulnerable - wind turbines are usually far from cities and are usually at higher altitudes

Our Solution

Fly High: An AI-driven computer vision system that revolutionizes wind farm operations

Key Features:

1. **Advanced Bird Recognition**
    - Hierarchical classification for highly accurate species identification
    - Capability to detect and analyze large flocks
2. **Smart Flight Route Prediction**
    - Real-time calculation of birds' flight paths
3. **Precision Turbine Control**
    - Automated signal for better control over turbine.



Real time video frames

Store

Recordings->Frames

Annotations

Add the failed detection to the training loop

Fine-Tuning

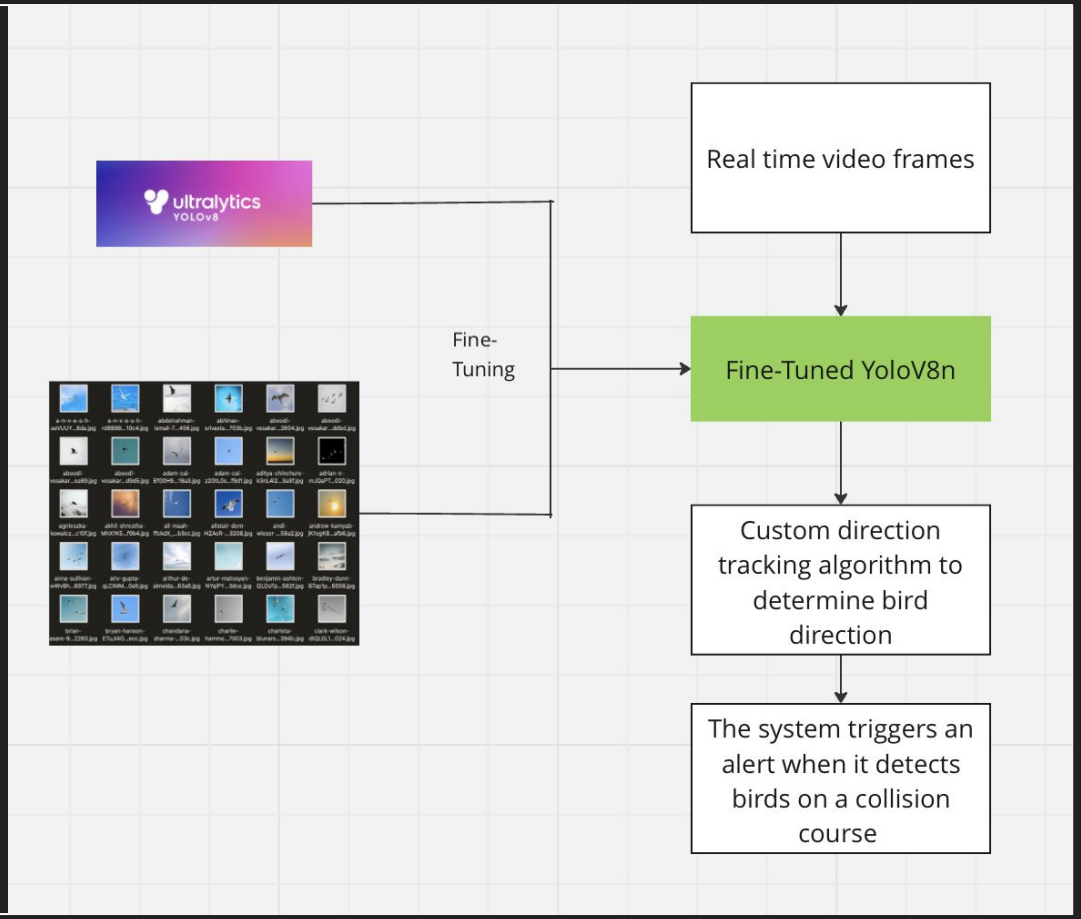
Fine-Tuned YoloV8n

Custom direction tracking algorithm to determine bird direction

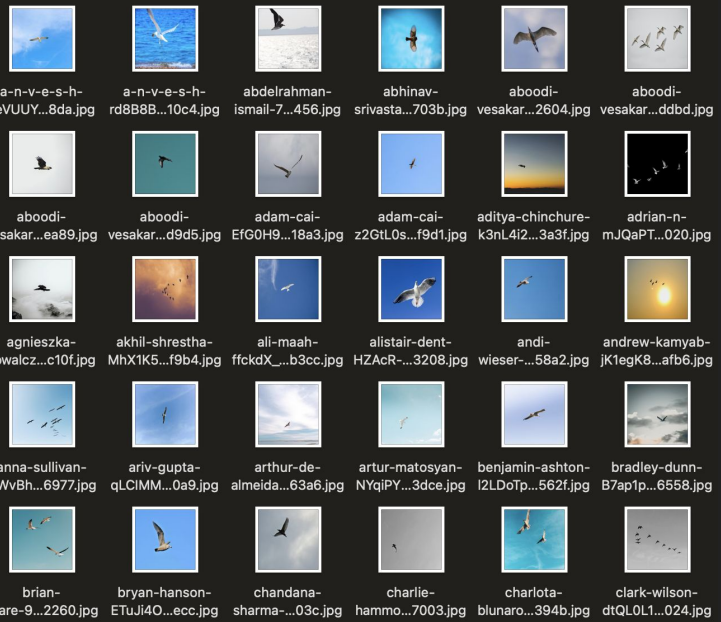
The system triggers an alert when it detects birds on a collision course

In-case failed to detect the birds

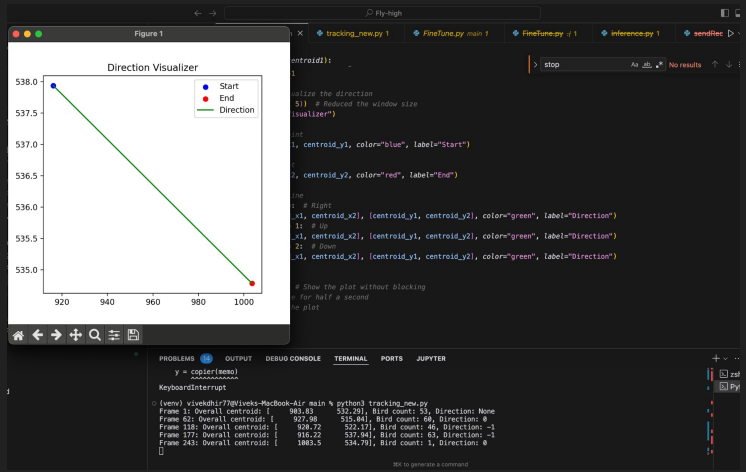
Architecture



Dataset Used:



Live Bird Direction Tracking:



Future Work:

https://universe.roboflow.com/ryu-myoungwoo/bird-detection-zaodr/dataset/5

Our Project:

https://github.com/vivekdhir77/Fly-high

Thank You!