

**Result**

Original Image:



Annotated Result:



# EVA GUARDIAN

## Objective

01

The EVA Guardian app is a lightweight web-based application built to simulate real-time object detection updates for astronauts. It acts as a visualization dashboard for YOLOv8 outputs from the trained Falcon simulator model.

# Key Features

02

- detection simulation (simulated due to offline dataset)
- Object classification (e.g., Fire extinguisher, toolbox)
- Summary dashboard of recent detections
- Image viewer with bounding box overlays

# Technology Stack

03

component	technology used
Frontend	HTML, CSS
Backend	Python + Flask
Model	YOLOv8 Object Detector
Hosting	GitHub
Deployment	Not live (only local demo)

# Architecture Diagram

04

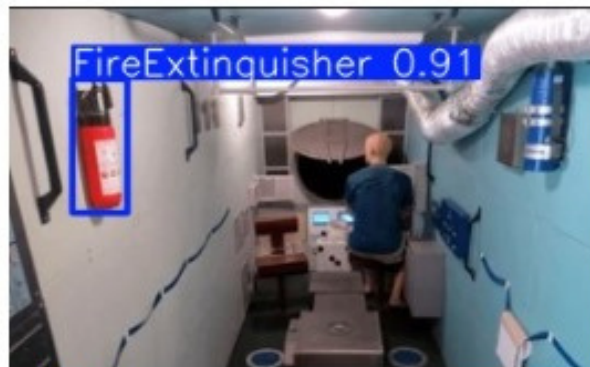
[YOLOv8 output] → [Processed by Python script] → [Flask API] → [HTML/CSS App Interface]

## Result

Original Image:



Annotated Result:



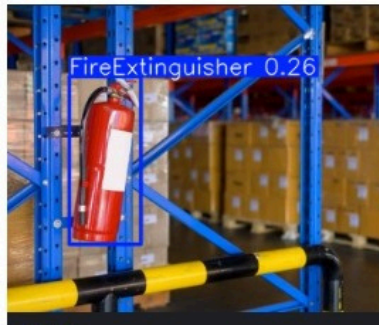
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## Result

Original Image:



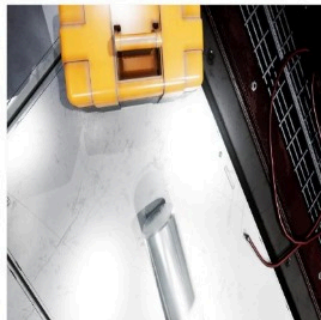
Annotated Result:



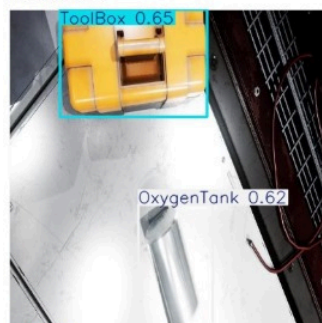
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## Result

Original Image:



Annotated Result:



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# Limitations

1. Not connected to real-time video feed
2. Offline detection only (no live streaming)
3. Works on static synthetic frames

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## Areas for Improvement

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07

- Integrate with live webcam/video feed
  - Add user login and astronaut-specific logs
  - Real-time alert push to wearable devices
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