AI in Precision Agriculture

Objectives

- **Empowering farmers with cutting-edge A for precise weed detection, enabling efficient, eco-friendly agriculture through real-time insights and user-friendly technology.**

Technologies

- YOLOv8 Object Detection
- ReactJS for frontend development
- Flask APIs

Workflow

- Train YOLOv8 model on a weed detection dataset
- Pass the uploaded video to the trained model to detect weed in the footage
- Integrate tracker to count the instances of weed in the video.

Workflow Continued ...

- Develop frontend using ReactJS
- Create Flask APIs to bridge frontend and backend functionalities
- [Optional] Deploy the chatbot on a hosting service.

Benefits to Farmers

- Significant reduction in manual labor and costs.
- Targeted weed control means less herbicide, more eco-friendly.
- Early detection prevents extensive crop damage.
- Optimized crop growth and yields due to reduced competition.

Future Steps

- Expansion to identify a range of crop diseases.
- Automated coordination with weed removal tools.
- User community for shared insights and support.
- Constant system refinement and feature additions.

Thank you & Welcome