March 1, 2025:

Downloading and testing a Yolo model onto my pc to observe current functionality without any major modifications.

Have a basic version of YOLO8 and YOLO11 running on my local device, both in nano format which is ~5MB in size so should be fine for ladybug applications.

Models are trained with .YAML datasets, will need to make/find one to train our model for use case.

It is all coded in python which is very easy to use. So far code writing/training side looks fairly straightforward but will need to do some deeper digging.

[YOLO11 🚀 NEW - Ultralytics YOLO Docs](https://docs.ultralytics.com/models/yolo11/#citations-and-acknowledgements)

March 2, 2025:

Process for making a new dataset that a yolo model can be trained on: [Datasets Overview - Ultralytics YOLO Docs](https://docs.ultralytics.com/datasets/#contribute-new-datasets)

* Requires lots of work from us to annotate data
  + Probably better to use existing data set to allow for faster model training
    - RF100
      * [RF100 - Ultralytics YOLO Docs](https://docs.ultralytics.com/datasets/detect/roboflow-100/)
    - VisDrone
      * [VisDrone - Ultralytics YOLO Docs](https://docs.ultralytics.com/datasets/detect/visdrone/)
    - Argoverse (3D tracking, motion forecasting, stereo depth estimation)
      * [Argoverse - Ultralytics YOLO Docs](https://docs.ultralytics.com/datasets/detect/argoverse/#usage)

Process for exporting model after training is complete: [Export - Ultralytics YOLO Docs](https://docs.ultralytics.com/modes/export/#how-do-i-export-a-yolo11-model-to-onnx-format)

Distance Calculation for yolo models: [Distance Calculation - Ultralytics YOLO Docs](https://docs.ultralytics.com/guides/distance-calculation/#arguments-modeltrack)

Output data is the coordinates of a box on the picture, along with the confidence in the prediction, contained in a .csv file.