### **YOLO-V8**

* **High accuracy and low inference time**
* **Extremely simple training process**
* **Best to use**
* **Lots of resources available for optimization using OpenVINO**

### **YOLO-NAS**

* **Has three model types:** small, medium, and large
* **Models have high accuracy and high inference time on both GPU and CPU**
* **Training is more complicated than YOLO-V8 but still relatively simple**
* **Requires COCO format of data**
* **Good, but due to high inference time, it is suggested to keep this as a backup**
* **Low accuracy when optimized with OpenVINO and has very few resources online for OpenVINO optimization for object detection**

### **YOLO-X**

* **Still in development**
* **No downloadable package; GitHub repo has to be downloaded**
* **Training code has several issues at the source (fixes marked out in training notebook)**
* **Accuracy is average at best and takes a lot of time for inference compared to YOLO-NAS and YOLO-V8**
* **Not working with supervision**
* **Due to all this, it is best not to use**

### **YOLO-V10**

* **New to the market**
* **Hardly detects anything after training for 30 epochs**
* **Detects objects after training for 10 epochs, but object detection flickers after each frame**
* **Better to use YOLO-V8**

### **Licensing Issues**

* **YOLO-V8/V10:** All Ultralytics models require a license if we want to keep our source code private
* **YOLO-NAS:** All SuperGradient models require a license if we decide to use their model weights. However, it seems that they are following suit with Ultralytics
* **YOLO-X:** Free to use but not worth it