■ AI Computer Vision Learning Roadmap & Tracker

Phase 1 – Foundations (Weeks 1–2)

■ Learn PyTorch basics (tensors, training loops, loss functions).	■
■ Train ResNet18 or EfficientNet on CIFAR-10 or MNIST.	■
■ Resources: PyTorch Blitz, Fast.ai, CS231n.	■
■ Dataset: CIFAR-10, MNIST, or custom fig vs non-fig dataset.	■

Phase 2 – Object Detection (Weeks 3–6)

■ Train YOLOv8/YOLOv12 on custom dataset (fig detection).	■
■ Experiment with SSD and Faster R-CNN.	■
■ Resources: Ultralytics tutorials, Roboflow guides.	■
■ Dataset: COCO-mini, Pascal VOC, custom Roboflow dataset.	■

Phase 3 – Segmentation & Pose (Weeks 7–10)

■ Train YOLO-seg or Mask R-CNN.	■
■ Try OpenPose or YOLO-pose for keypoint detection.	■
■ Resources: Detectron2 tutorials, OpenPose demos.	■
■ Dataset: COCO-segmentation, Cityscapes, MPII Human Pose.	■

Phase 4 – Transformers & Foundation Models (Weeks 11–16)

■ Train ViT for classification, experiment with DETR.	■
■ Explore CLIP (text–image search).	■
■ Try SAM (Segment Anything Model).	■
■ Resources: Hugging Face ViT tutorials, SAM demos.	■
■ Dataset: ImageNet subset, Oxford Pets, custom fig/tree dataset.	■

Phase 5 – Real Projects & Deployment (Ongoing)

■ Build fig tree street scanner (YOLO + GPS mapping).	■
■ Deploy with Flask/FastAPI.	■
■ Export models to ONNX/TensorRT.	■

■ Resources: Full Stack Deep Learning Bootcamp, deployment guides.	■
■ Dataset: Self-collected images + Roboflow augmentation.	■