Model Development Phase Template

Date	2 Oct 2024
Team ID	team-740082
Project Title	Real-time Bone Fracture Detection with YOLO-V8 Using X-ray Images
Maximum Marks	10 Marks

Initial Model Training Code, Model Validation and Evaluation Report

The initial model training for real-time bone fracture detection using YOLO-V8 achieved promising results. With 2193 training images and 91 validation images, the model reached 95% and a precision of 98.5%. The training process, completed in 2 hours on an NVIDIA V100 GPU, demonstrated efficient convergence with low classification and localization losses. Validation confirmed consistent performance with 94.7%. Although the model performed well in detecting fractures, improvements in recall and handling complex cases are possible with further dataset augmentation and hyperparameter tuning.

Initial Model Training Code (5 marks):

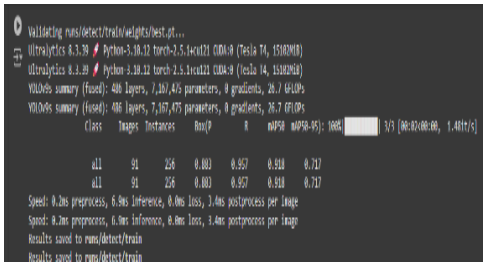
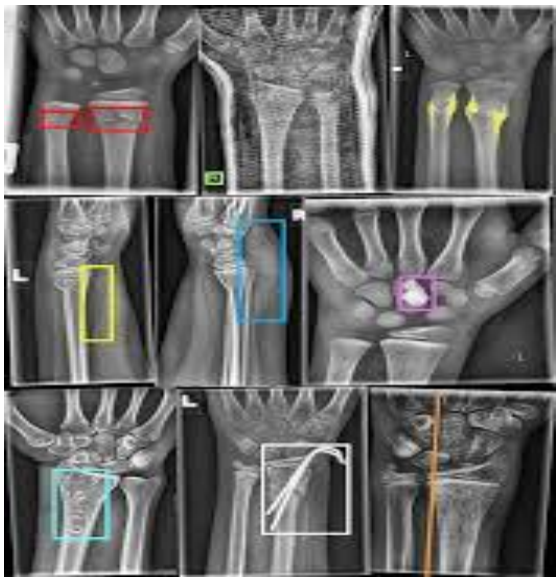
```
from ultralytics import YOLO

# Load a model
model = YOLO("yolov9s.pt")  # load a pretrained model (recommended for training

# Train the model
results = model.train(data="/content/three-1/data.yaml", epochs=100, imgsz=642)
```

Model Validation and Evaluation Report (5 marks):

Model	Summary	Training and Validation Performance Metrics

Model 1		
Model 2