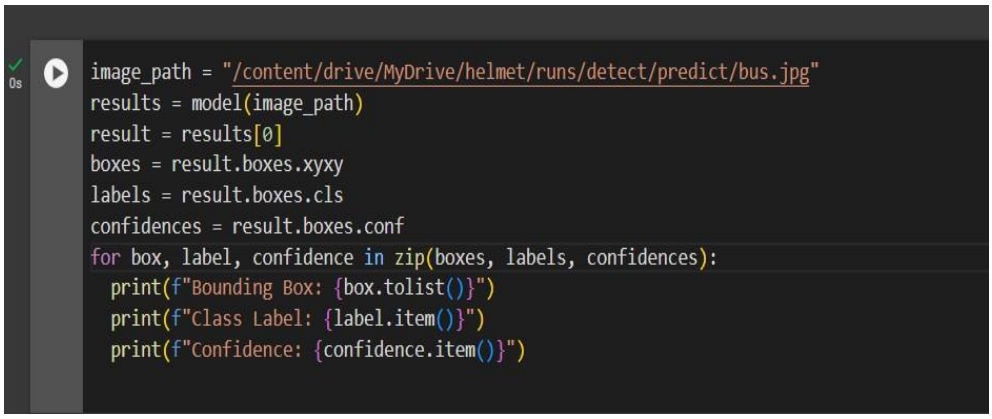
Model Optimization and Tuning Phase Template

Date	8 Nov 2024
Team ID	739648
Project Title	Guardianeye: Yolo-Based Smart Helmet Detection System For Enhanced Safety In Real-Time
Maximum Marks	10 Marks

Model Optimization and Tuning Phase

The Model Optimization and Tuning Phase involves refining neural network models for peak performance. It includes optimized model code, fine-tuning hyperparameters, comparing performance metrics, and justifying the final model selection for enhanced predictive accuracy and efficiency.

Hyperparameter Tuning Documentation (8 Marks):

Model	Tuned Hyperparameters
YOLOv5s	

Final Model Selection Justification (2 Marks):

Final Model	Reasoning
YOLOv5s	In the quest for optimal real-time object detection, YOLOv5 stands out with its innovative approach to overcoming information loss challenges inherent in deep neural network. By integrating PGI and the versatile GELAN architecture, YOLOv5 not only enhances the model's learning capacity but also ensures the retention of crucial information throughout the detection process, thereby achieving exceptional accuracy and performance.