GUI Features Testing Table

Test ID	Purpose of Test	Expected Outcome	Actual Outcome
1.1	Testing if the GUI opens as a half window upon launch, so the other half of the screen can be used for RViz2 panel	GUI window opens on the left half of the display	As expected
2.1	Checking if camera feed outputs real-time video	Upon launch the camera feed should automatically start an 800x450 video feed on the top area of the GUI window	As expected
2.2	Testing the defect detection toggle	Toggling should enable and disable the YOLOv11n model from identifying where cracks are in the camera feed	As expected, there is an increase in FPS when disabled
2.3	Testing image capture button,	When the capture button is pressed, the current frame (without object detection overlay) should be saved under a predefined local destination as a .JPG file with relevant metadata	As expected, .JPG file saved in the correct destination, alongside camera settings metadata
2.4	Camera control sliders test	When the slider values are modified, the correspondent camera setting should be applied accordingly and the result will be visible on the live camera feed	As expected
2.5	White balance buttons test	When different predefined white balance buttons are selected, the camera should directly change to the correspondent white balance setting, visible on the live camera feed	As expected
2.6	Camera settings reset button	When the button has been pressed, the sliders and white balance buttons will be reset to default values	As expected
3.1	Sensors monitoring test, ensuring that the sensors are correctly displaying their value types	Upon launch, all sensor under “Sensors” tab should be displaying correct values in real-time, which derive from subscribing to various Ros2 topics	As expected
4.1	Developer / Engineering tab monitoring test, ensuring that the remaining sensors are correctly displaying their value types	Upon launch, all sensor under “Dev/Eng” tab should be displaying correct values in real-time, which derive from subscribing to various Ros2 topics	As expected