**SOFTWARES USED**

* **Programming Language**
* Python 3.7.0
* **2. Libraries and Frameworks**
* **TensorFlow** – Deep learning framework for model building
* **Keras** – High-level neural network API used for implementing the Faster R-CNN model
* **OpenCV** – For image and video processing
* **NumPy** – For numerical operations and matrix handling
* **PIL (Python Imaging Library)** – Image display and handling in the GUI
* **Matplotlib** – For plotting accuracy/loss graphs
* **scikit-learn** – For model evaluation metrics like accuracy, precision, recall, F1-score
* **GUI Development**
* **Tkinter** – Used to build the desktop application interface with radar-style buttons and logs
* **IDE (Integrated Development Environment)**
* **Visual Studio Code** or **PyCharm** – For writing and debugging the code
* **Other Tools**
* **XML Parser** – Used for parsing annotation files (Pascal VOC format) during dataset loading
* **Pickle** – For saving training history and model state
* **Model-Checkpoint (from Keras)** – For saving the best model weights during training