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(57) Abstract :
A method (100) for multi-object recognising and specifying retrieval using convolutional neural networks comprises acquiring a dataset of images (102) containing objects of interest via data collection module; labelling the objects within the images manually, specifying their location and type via data annotation (104) module. The method further comprises modifying artificially the labelled images to increase the diversity and robustness of the training data, potentially involving techniques. The method further comprises defining a deep learning (116) architecture, such as a convolutional neural network (CNN), specifically suited for object detection tasks via network architecture module. The method further comprises setting hyperparameters for the training process, including learning rate, optimizer choice, and training epochs via training parameters (118) module. The method further comprises training process, feeding the annotated and augmented data (108) through the deep learning (116) model for iterative learning and refinement of its object detection capabilities.

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