SparseDet: Improving Sparsely Annotated Object Detection with Pseudo-positive Mining

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Overview
• We present SparseDet which is devised for training with sparse labels for object detection. 
• Sparse annotations refer to missing bounding boxes and corresponding label for instances in an image. Training with such annotations reduces performance as it considers all unlabeled regions as background. 
• Our approach can handle sparse annotations and is especially effective at higher sparsity.

Approach
Feature Extraction > Concatenation > C-RPN > Pseudo Positive Mining > Sup. + Self-Sup. Loss

Experimental Results
Performance on a COCO split (Split-1)

Performance on a COCO split (Split-2)

Performance on VOC ’07+12 split (Split-4)

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