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model {
  ssd {
    num_classes: 2
    image_resizer {
      keep_aspect_ratio_resizer {
        min_dimension: 512
        max_dimension: 512
        pad_to_max_dimension: true
      }
    }
  }
  feature_extractor {
    type: "ssd_efficientnet-b0_bifpn_keras"
    conv_hyperparams {
      regularizer {
        l2_regularizer {
          weight: 4e-05
        }
      }
      initializer {
        truncated_normal_initializer {
          mean: 0.0
          stddev: 0.03
        }
      }
      activation: SWISH
      batch_norm {
        decay: 0.99
        scale: true
        epsilon: 0.001
      }
      force_use_bias: true
    }
    bifpn {
      min_level: 3
      max_level: 7
      num_iterations: 3
      num_filters: 64
    }
  }
  box_coder {
    faster_rcnn_box_coder {
      y_scale: 10.0
      x_scale: 10.0
      height_scale: 5.0
      width_scale: 5.0
    }
  }
  matcher {
    argmax_matcher {
      matched_threshold: 0.5
      unmatched_threshold: 0.5
      ignore_thresholds: false
      negatives_lower_than_unmatched: true
      force_match_for_each_row: true
      use_matmul_gather: true
    }
  }
  similarity_calculator {
    iou_similarity {
    }
  }
}

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}
box_predictor {
  weight_shared_convolutional_box_predictor {
    conv_hyperparams {
      regularizer {
        l2_regularizer {
          weight: 4e-05
        }
      }
      initializer {
        random_normal_initializer {
          mean: 0.0
          stddev: 0.01
        }
      }
      activation: SWISH
      batch_norm {
        decay: 0.99
        scale: true
        epsilon: 0.001
      }
      force_use_bias: true
    }
    depth: 64
    num_layers_before_predictor: 3
    kernel_size: 3
    class_prediction_bias_init: -4.6
    use_depthwise: true
  }
}
anchor_generator {
  multiscale_anchor_generator {
    min_level: 3
    max_level: 7
    anchor_scale: 4.0
    aspect_ratios: 1.0
    aspect_ratios: 2.0
    aspect_ratios: 0.5
    scales_per_octave: 3
  }
}
post_processing {
  batch_non_max_suppression {
    score_threshold: 1e-08
    iou_threshold: 0.5
    max_detections_per_class: 100
    max_total_detections: 100
  }
  score_converter: SIGMOID
}
normalize_loss_by_num_matches: true
loss {
  localization_loss {
    weighted_smooth_l1 {
    }
  }
}
classification_loss {
  weighted_sigmoid_focal {
    gamma: 1.5
    alpha: 0.25
  }
}

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        }
    }
    classification_weight: 1.0
    localization_weight: 1.0
}
encode_background_as_zeros: true
normalize_loc_loss_by_codesize: true
inplace_batchnorm_update: true
freeze_batchnorm: false
add_background_class: false
}
}
train_config {
    batch_size: 16
    data_augmentation_options {
        random_horizontal_flip {
        }
    }
    data_augmentation_options {
        random_scale_crop_and_pad_to_square {
            output_size: 512
            scale_min: 0.1
            scale_max: 2.0
        }
    }
}
sync_replicas: true
optimizer {
    momentum_optimizer {
        learning_rate {
            cosine_decay_learning_rate {
                learning_rate_base: 0.005
                total_steps: 300000
                warmup_learning_rate: 0.001
                warmup_steps: 2500
            }
        }
        momentum_optimizer_value: 0.9
    }
    use_moving_average: false
}
fine_tune_checkpoint:
"/content/KKMs_and_CTs_Model_1_Stage_3_3000_Images/checkpoint/ckpt-0"
num_steps: 40000
startup_delay_steps: 0.0
replicas_to_aggregate: 8
max_number_of_boxes: 100
unpad_groundtruth_tensors: false
fine_tune_checkpoint_type: "detection"
use_bfloat16: true
fine_tune_checkpoint_version: V2
}
train_input_reader {
    label_map_path: "/content/train/KKMs-and-CTs_label_map.pbtxt"
    tf_record_input_reader {
        input_path: "/content/train/kkm-and-coolingtowers.tfrecord"
    }
}
}
eval_config {
    metrics_set: "coco_detection_metrics"
    use_moving_averages: false
}

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    batch_size: 16
  }
  eval_input_reader {
    label_map_path: "/content/train/KKMs-and-CTs_label_map.pbtxt"
    shuffle: false
    num_epochs: 1
    tf_record_input_reader {
      input_path: "/content/test/kkm-and-coolingtowers.tfrecord"
    }
  }
}
```