Epoch 31/45

445/445 [==============================] - ETA: 0s - det\_loss: 0.4559 - cls\_loss: 0.2663 - box\_loss: 0.0038 - reg\_l2\_loss: 0.1005 - loss: 0.5564 - learning\_rate: 0.0367 - gradient\_norm: 1.6010

Epoch 31: saving model to /content/drive/My Drive/STEM\_1/dataset/try6/last\_layers/ckpt-31

445/445 [==============================] - 461s 932ms/step - det\_loss: 0.4558 - cls\_loss: 0.2662 - box\_loss: 0.0038 - reg\_l2\_loss: 0.1005 - loss: 0.5563 - learning\_rate: 0.0367 - gradient\_norm: 1.6007 - val\_det\_loss: 0.4518 - val\_cls\_loss: 0.2928 - val\_box\_loss: 0.0032 - val\_reg\_l2\_loss: 0.1010 - val\_loss: 0.5529

Epoch 32/45

445/445 [==============================] - ETA: 0s - det\_loss: 0.3947 - cls\_loss: 0.2296 - box\_loss: 0.0033 - reg\_l2\_loss: 0.1011 - loss: 0.4958 - learning\_rate: 0.0333 - gradient\_norm: 1.1620

Epoch 32: saving model to /content/drive/My Drive/STEM\_1/dataset/try6/last\_layers/ckpt-32

445/445 [==============================] - 401s 900ms/step - det\_loss: 0.3947 - cls\_loss: 0.2296 - box\_loss: 0.0033 - reg\_l2\_loss: 0.1011 - loss: 0.4958 - learning\_rate: 0.0333 - gradient\_norm: 1.1621

Epoch 33/45

445/445 [==============================] - ETA: 0s - det\_loss: 0.3761 - cls\_loss: 0.2192 - box\_loss: 0.0031 - reg\_l2\_loss: 0.1010 - loss: 0.4771 - learning\_rate: 0.0300 - gradient\_norm: 1.1415

Epoch 33: saving model to /content/drive/My Drive/STEM\_1/dataset/try6/last\_layers/ckpt-33

445/445 [==============================] - 403s 906ms/step - det\_loss: 0.3760 - cls\_loss: 0.2192 - box\_loss: 0.0031 - reg\_l2\_loss: 0.1010 - loss: 0.4770 - learning\_rate: 0.0299 - gradient\_norm: 1.1406

Epoch 34/45

445/445 [==============================] - ETA: 0s - det\_loss: 0.3610 - cls\_loss: 0.2119 - box\_loss: 0.0030 - reg\_l2\_loss: 0.1009 - loss: 0.4619 - learning\_rate: 0.0267 - gradient\_norm: 1.0598

Epoch 34: saving model to /content/drive/My Drive/STEM\_1/dataset/try6/last\_layers/ckpt-34

445/445 [==============================] - 402s 903ms/step - det\_loss: 0.3609 - cls\_loss: 0.2118 - box\_loss: 0.0030 - reg\_l2\_loss: 0.1009 - loss: 0.4617 - learning\_rate: 0.0267 - gradient\_norm: 1.0591

Epoch 35/45

445/445 [==============================] - ETA: 0s - det\_loss: 0.3448 - cls\_loss: 0.2028 - box\_loss: 0.0028 - reg\_l2\_loss: 0.1006 - loss: 0.4453 - learning\_rate: 0.0236 - gradient\_norm: 1.0177

Epoch 35: saving model to /content/drive/My Drive/STEM\_1/dataset/try6/last\_layers/ckpt-35

445/445 [==============================] - 425s 954ms/step - det\_loss: 0.3447 - cls\_loss: 0.2028 - box\_loss: 0.0028 - reg\_l2\_loss: 0.1005 - loss: 0.4452 - learning\_rate: 0.0236 - gradient\_norm: 1.0171

Epoch 36/45

445/445 [==============================] - ETA: 0s - det\_loss: 0.3387 - cls\_loss: 0.2004 - box\_loss: 0.0028 - reg\_l2\_loss: 0.1002 - loss: 0.4389 - learning\_rate: 0.0207 - gradient\_norm: 1.0325

Epoch 36: saving model to /content/drive/My Drive/STEM\_1/dataset/try6/last\_layers/ckpt-36

445/445 [==============================] - 401s 901ms/step - det\_loss: 0.3386 - cls\_loss: 0.2003 - box\_loss: 0.0028 - reg\_l2\_loss: 0.1002 - loss: 0.4388 - learning\_rate: 0.0207 - gradient\_norm: 1.0326

Epoch 37/45

445/445 [==============================] - ETA: 0s - det\_loss: 0.3292 - cls\_loss: 0.1948 - box\_loss: 0.0027 - reg\_l2\_loss: 0.0998 - loss: 0.4290 - learning\_rate: 0.0179 - gradient\_norm: 1.0093

Epoch 37: saving model to /content/drive/My Drive/STEM\_1/dataset/try6/last\_layers/ckpt-37

445/445 [==============================] - 402s 902ms/step - det\_loss: 0.3293 - cls\_loss: 0.1949 - box\_loss: 0.0027 - reg\_l2\_loss: 0.0998 - loss: 0.4292 - learning\_rate: 0.0179 - gradient\_norm: 1.0089

Epoch 38/45

445/445 [==============================] - ETA: 0s - det\_loss: 0.3224 - cls\_loss: 0.1921 - box\_loss: 0.0026 - reg\_l2\_loss: 0.0995 - loss: 0.4219 - learning\_rate: 0.0152 - gradient\_norm: 1.0303

Epoch 38: saving model to /content/drive/My Drive/STEM\_1/dataset/try6/last\_layers/ckpt-38

445/445 [==============================] - 405s 910ms/step - det\_loss: 0.3224 - cls\_loss: 0.1922 - box\_loss: 0.0026 - reg\_l2\_loss: 0.0995 - loss: 0.4219 - learning\_rate: 0.0152 - gradient\_norm: 1.0337

Epoch 39/45

445/445 [==============================] - ETA: 0s - det\_loss: 0.3176 - cls\_loss: 0.1897 - box\_loss: 0.0026 - reg\_l2\_loss: 0.0992 - loss: 0.4168 - learning\_rate: 0.0127 - gradient\_norm: 1.0268

Epoch 39: saving model to /content/drive/My Drive/STEM\_1/dataset/try6/last\_layers/ckpt-39

445/445 [==============================] - 402s 904ms/step - det\_loss: 0.3175 - cls\_loss: 0.1896 - box\_loss: 0.0026 - reg\_l2\_loss: 0.0992 - loss: 0.4167 - learning\_rate: 0.0127 - gradient\_norm: 1.0278

Epoch 40/45

445/445 [==============================] - ETA: 0s - det\_loss: 0.3094 - cls\_loss: 0.1844 - box\_loss: 0.0025 - reg\_l2\_loss: 0.0989 - loss: 0.4083 - learning\_rate: 0.0105 - gradient\_norm: 1.0301

Epoch 40: saving model to /content/drive/My Drive/STEM\_1/dataset/try6/last\_layers/ckpt-40

445/445 [==============================] - 423s 951ms/step - det\_loss: 0.3093 - cls\_loss: 0.1844 - box\_loss: 0.0025 - reg\_l2\_loss: 0.0989 - loss: 0.4082 - learning\_rate: 0.0105 - gradient\_norm: 1.0298

Epoch 41/45

445/445 [==============================] - ETA: 0s - det\_loss: 0.3040 - cls\_loss: 0.1823 - box\_loss: 0.0024 - reg\_l2\_loss: 0.0987 - loss: 0.4027 - learning\_rate: 0.0084 - gradient\_norm: 1.0257

Epoch 41: saving model to /content/drive/My Drive/STEM\_1/dataset/try6/last\_layers/ckpt-41

445/445 [==============================] - 404s 908ms/step - det\_loss: 0.3041 - cls\_loss: 0.1823 - box\_loss: 0.0024 - reg\_l2\_loss: 0.0987 - loss: 0.4028 - learning\_rate: 0.0084 - gradient\_norm: 1.0253

Epoch 42/45

445/445 [==============================] - ETA: 0s - det\_loss: 0.2987 - cls\_loss: 0.1794 - box\_loss: 0.0024 - reg\_l2\_loss: 0.0985 - loss: 0.3971 - learning\_rate: 0.0065 - gradient\_norm: 1.0128

Epoch 42: saving model to /content/drive/My Drive/STEM\_1/dataset/try6/last\_layers/ckpt-42

445/445 [==============================] - 404s 907ms/step - det\_loss: 0.2988 - cls\_loss: 0.1794 - box\_loss: 0.0024 - reg\_l2\_loss: 0.0985 - loss: 0.3972 - learning\_rate: 0.0065 - gradient\_norm: 1.0128

Epoch 43/45

445/445 [==============================] - ETA: 0s - det\_loss: 0.2947 - cls\_loss: 0.1774 - box\_loss: 0.0023 - reg\_l2\_loss: 0.0983 - loss: 0.3930 - learning\_rate: 0.0049 - gradient\_norm: 1.0339

Epoch 43: saving model to /content/drive/My Drive/STEM\_1/dataset/try6/last\_layers/ckpt-43

445/445 [==============================] - 405s 910ms/step - det\_loss: 0.2946 - cls\_loss: 0.1774 - box\_loss: 0.0023 - reg\_l2\_loss: 0.0983 - loss: 0.3929 - learning\_rate: 0.0049 - gradient\_norm: 1.0335

Epoch 44/45

445/445 [==============================] - ETA: 0s - det\_loss: 0.2905 - cls\_loss: 0.1755 - box\_loss: 0.0023 - reg\_l2\_loss: 0.0982 - loss: 0.3887 - learning\_rate: 0.0034 - gradient\_norm: 1.0411

Epoch 44: saving model to /content/drive/My Drive/STEM\_1/dataset/try6/last\_layers/ckpt-44

445/445 [==============================] - 404s 908ms/step - det\_loss: 0.2905 - cls\_loss: 0.1755 - box\_loss: 0.0023 - reg\_l2\_loss: 0.0982 - loss: 0.3887 - learning\_rate: 0.0034 - gradient\_norm: 1.0409

Epoch 45/45

445/445 [==============================] - ETA: 0s - det\_loss: 0.2879 - cls\_loss: 0.1742 - box\_loss: 0.0023 - reg\_l2\_loss: 0.0981 - loss: 0.3860 - learning\_rate: 0.0023 - gradient\_norm: 1.0585

Epoch 45: saving model to /content/drive/My Drive/STEM\_1/dataset/try6/last\_layers/ckpt-45

445/445 [==============================] - 422s 949ms/step - det\_loss: 0.2881 - cls\_loss: 0.1743 - box\_loss: 0.0023 - reg\_l2\_loss: 0.0981 - loss: 0.3862 - learning\_rate: 0.0023 - gradient\_norm: 1.0598

<keras.callbacks.History at 0x7fc237d4f790>