פרמטרים:

super\_resolution\_num\_res\_blocks = 10 #@param {type:"slider", min:1, max:15, step:1}

batch\_size = 100 #@param {type:"slider", min:1, max:128, step:16}

steps\_per\_epoch = 1500 #@param {type:"slider", min:100, max:5000, step:100}

num\_epochs = 10 #@param {type:"slider", min:1, max:20, step:1}

patch\_size = 32 #@param {type:"slider", min:8, max:32, step:2}

num\_channels = 50 #@param {type:"slider", min:16, max:64, step:2}

ריצה:

Epoch 1/10

1499/1500 [============================>.] - ETA: 0s - loss: 0.0036Epoch 1/10

1500/1500 [==============================] - 828s 552ms/step - loss: 0.0036 - val\_loss: 0.0043

Epoch 2/10

1499/1500 [============================>.] - ETA: 0s - loss: 0.0034Epoch 1/10

1500/1500 [==============================] - 819s 546ms/step - loss: 0.0034 - val\_loss: 0.0042

Epoch 3/10

1499/1500 [============================>.] - ETA: 0s - loss: 0.0033Epoch 1/10

1500/1500 [==============================] - 822s 548ms/step - loss: 0.0033 - val\_loss: 0.0041

Epoch 4/10

1499/1500 [============================>.] - ETA: 0s - loss: 0.0033Epoch 1/10

1500/1500 [==============================] - 821s 547ms/step - loss: 0.0033 - val\_loss: 0.0041

Epoch 5/10

1499/1500 [============================>.] - ETA: 0s - loss: 0.0033Epoch 1/10

1500/1500 [==============================] - 829s 553ms/step - loss: 0.0033 - val\_loss: 0.0041

Epoch 6/10

1499/1500 [============================>.] - ETA: 0s - loss: 0.0033Epoch 1/10

1500/1500 [==============================] - 824s 549ms/step - loss: 0.0033 - val\_loss: 0.0041

Epoch 7/10

1499/1500 [============================>.] - ETA: 0s - loss: 0.0032Epoch 1/10

1500/1500 [==============================] - 814s 543ms/step - loss: 0.0032 - val\_loss: 0.0040

Epoch 8/10

1499/1500 [============================>.] - ETA: 0s - loss: 0.0032Epoch 1/10

1500/1500 [==============================] - 826s 551ms/step - loss: 0.0032 - val\_loss: 0.0041

Epoch 9/10

1499/1500 [============================>.] - ETA: 0s - loss: 0.0032Epoch 1/10

1500/1500 [==============================] - 822s 548ms/step - loss: 0.0032 - val\_loss: 0.0040

Epoch 10/10

1499/1500 [============================>.] - ETA: 0s - loss: 0.0032Epoch 1/10

1500/1500 [==============================] - 813s 542ms/step - loss: 0.0032 - val\_loss: 0.0041

Bear\_original:

A bear walking in the snow

Description automatically generated with low confidence

Bear\_corrupted:



Bear\_restored:

A picture containing text, bear, outdoor, mammal

Description automatically generated

משנה ל3 איפוקים (גרוע)

Epoch 1/3

1499/1500 [============================>.] - ETA: 0s - loss: 0.0037Epoch 1/3

1500/1500 [==============================] - 815s 544ms/step - loss: 0.0037 - val\_loss: 0.0040

Epoch 2/3

1499/1500 [============================>.] - ETA: 0s - loss: 0.0034Epoch 1/3

1500/1500 [==============================] - 803s 536ms/step - loss: 0.0034 - val\_loss: 0.0039

Epoch 3/3

1499/1500 [============================>.] - ETA: 0s - loss: 0.0033Epoch 1/3

1500/1500 [==============================] - 791s 527ms/step - loss: 0.0033 - val\_loss: 0.0039

A black and white photo of a bear walking on rocks

Description automatically generated with medium confidence

פרמטרים:

#@markdown ### 7.3.2 Training a Super Resolution Model

super\_resolution\_num\_res\_blocks = 10 #@param {type:"slider", min:1, max:15, step:1}

batch\_size = 100 #@param {type:"slider", min:1, max:128, step:16}

steps\_per\_epoch = 100 #@param {type:"slider", min:100, max:5000, step:100}

num\_epochs = 10 #@param {type:"slider", min:1, max:20, step:1}

patch\_size = 32 #@param {type:"slider", min:8, max:32, step:2}

num\_channels = 50 #@param {type:"slider", min:16, max:64, step:2}

#@markdown \*\*DON'T FORGET TO RUN THIS CELL AFTER YOU CHANGING THE VALUES!\*\*

Epoch 1/10

99/100 [============================>.] - ETA: 0s - loss: 0.0056Epoch 1/10

1000/100 [============================================================================================================================================================================================================================================================================================================] - 311s 311ms/step - loss: 0.0041

100/100 [==============================] - 348s 3s/step - loss: 0.0056 - val\_loss: 0.0038

Epoch 2/10

99/100 [============================>.] - ETA: 0s - loss: 0.0039Epoch 1/10

1000/100 [============================================================================================================================================================================================================================================================================================================] - 311s 311ms/step - loss: 0.0035

100/100 [==============================] - 343s 3s/step - loss: 0.0039 - val\_loss: 0.0037

Epoch 3/10

99/100 [============================>.] - ETA: 0s - loss: 0.0039Epoch 1/10

1000/100 [============================================================================================================================================================================================================================================================================================================] - 309s 309ms/step - loss: 0.0033

100/100 [==============================] - 341s 3s/step - loss: 0.0039 - val\_loss: 0.0036

Epoch 4/10

99/100 [============================>.] - ETA: 0s - loss: 0.0039Epoch 1/10

1000/100 [============================================================================================================================================================================================================================================================================================================] - 309s 309ms/step - loss: 0.0042

100/100 [==============================] - 341s 3s/step - loss: 0.0039 - val\_loss: 0.0036

Epoch 5/10

99/100 [============================>.] - ETA: 0s - loss: 0.0037Epoch 1/10

1000/100 [============================================================================================================================================================================================================================================================================================================] - 311s 311ms/step - loss: 0.0034

100/100 [==============================] - 342s 3s/step - loss: 0.0037 - val\_loss: 0.0035

Epoch 6/10

99/100 [============================>.] - ETA: 0s - loss: 0.0037Epoch 1/10

1000/100 [============================================================================================================================================================================================================================================================================================================] - 313s 313ms/step - loss: 0.0037

100/100 [==============================] - 345s 3s/step - loss: 0.0037 - val\_loss: 0.0035

Epoch 7/10

99/100 [============================>.] - ETA: 0s - loss: 0.0037Epoch 1/10

1000/100 [============================================================================================================================================================================================================================================================================================================] - 314s 314ms/step - loss: 0.0036

100/100 [==============================] - 345s 3s/step - loss: 0.0037 - val\_loss: 0.0035

Epoch 8/10

99/100 [============================>.] - ETA: 0s - loss: 0.0037Epoch 1/10

1000/100 [============================================================================================================================================================================================================================================================================================================] - 313s 313ms/step - loss: 0.0034

100/100 [==============================] - 345s 3s/step - loss: 0.0037 - val\_loss: 0.0035

Epoch 9/10

99/100 [============================>.] - ETA: 0s - loss: 0.0037Epoch 1/10

1000/100 [============================================================================================================================================================================================================================================================================================================] - 314s 314ms/step - loss: 0.0036

100/100 [==============================] - 346s 3s/step - loss: 0.0037 - val\_loss: 0.0034

Epoch 10/10

99/100 [============================>.] - ETA: 0s - loss: 0.0036Epoch 1/10

1000/100 [============================================================================================================================================================================================================================================================================================================] - 315s 315ms/step - loss: 0.0032

100/100 [==============================] - 347s 3s/step - loss: 0.0036 - val\_loss: 0.0034

A picture containing text, bear, outdoor, mammal

Description automatically generated

super\_resolution\_num\_res\_blocks = 10 #@param {type:"slider", min:1, max:15, step:1}

batch\_size = 100 #@param {type:"slider", min:1, max:128, step:16}

steps\_per\_epoch = 100 #@param {type:"slider", min:100, max:5000, step:100}

num\_epochs = 10 #@param {type:"slider", min:1, max:20, step:1}

patch\_size = 32 #@param {type:"slider", min:8, max:32, step:2}

num\_channels = 64 #@param {type:"slider", min:16, max:64, step:2}

Epoch 1/10

99/100 [============================>.] - ETA: 0s - loss: 0.0058Epoch 1/10

1000/100 [============================================================================================================================================================================================================================================================================================================] - 311s 311ms/step - loss: 0.0040

100/100 [==============================] - 348s 3s/step - loss: 0.0058 - val\_loss: 0.0041

Epoch 2/10

99/100 [============================>.] - ETA: 0s - loss: 0.0038Epoch 1/10

1000/100 [============================================================================================================================================================================================================================================================================================================] - 311s 311ms/step - loss: 0.0036

100/100 [==============================] - 342s 3s/step - loss: 0.0039 - val\_loss: 0.0040

Epoch 3/10

99/100 [============================>.] - ETA: 0s - loss: 0.0038Epoch 1/10

1000/100 [============================================================================================================================================================================================================================================================================================================] - 309s 309ms/step - loss: 0.0043

100/100 [==============================] - 341s 3s/step - loss: 0.0038 - val\_loss: 0.0039

Epoch 4/10

99/100 [============================>.] - ETA: 0s - loss: 0.0038Epoch 1/10

1000/100 [============================================================================================================================================================================================================================================================================================================] - 311s 311ms/step - loss: 0.0037

100/100 [==============================] - 342s 3s/step - loss: 0.0037 - val\_loss: 0.0039

Epoch 5/10

99/100 [============================>.] - ETA: 0s - loss: 0.0037Epoch 1/10

1000/100 [============================================================================================================================================================================================================================================================================================================] - 304s 304ms/step - loss: 0.0043

100/100 [==============================] - 336s 3s/step - loss: 0.0037 - val\_loss: 0.0038

Epoch 6/10

99/100 [============================>.] - ETA: 0s - loss: 0.0036Epoch 1/10

1000/100 [============================================================================================================================================================================================================================================================================================================] - 308s 308ms/step - loss: 0.0039

100/100 [==============================] - 339s 3s/step - loss: 0.0036 - val\_loss: 0.0038

Epoch 7/10

99/100 [============================>.] - ETA: 0s - loss: 0.0036Epoch 1/10

1000/100 [============================================================================================================================================================================================================================================================================================================] - 313s 313ms/step - loss: 0.0039

100/100 [==============================] - 345s 3s/step - loss: 0.0036 - val\_loss: 0.0038

Epoch 8/10

99/100 [============================>.] - ETA: 0s - loss: 0.0037Epoch 1/10

1000/100 [============================================================================================================================================================================================================================================================================================================] - 314s 314ms/step - loss: 0.0040

100/100 [==============================] - 346s 3s/step - loss: 0.0037 - val\_loss: 0.0037

Epoch 9/10

99/100 [============================>.] - ETA: 0s - loss: 0.0036Epoch 1/10

1000/100 [============================================================================================================================================================================================================================================================================================================] - 314s 314ms/step - loss: 0.0037

100/100 [==============================] - 347s 3s/step - loss: 0.0036 - val\_loss: 0.0037

Epoch 10/10

99/100 [============================>.] - ETA: 0s - loss: 0.0035Epoch 1/10

1000/100 [============================================================================================================================================================================================================================================================================================================] - 311s 311ms/step - loss: 0.0037

100/100 [==============================] - 343s 3s/step - loss: 0.0035 - val\_loss: 0.0037

A picture containing text, bear, mammal

Description automatically generated

קצת פחות טוב מ50 צ׳אנלים – אוברפיטינג?