

DeepDream image results



Original image



Simple gradient ascent



Using an octave
Step_size = 0.01



Using an octave
Step_size = 0.05



Scaling up
with tiles

So far for intro test
(approx. for all of these):

Covnet: InceptionV3
Layers: mixed3, mixed5
Octave scale: 1.30
Step size: 0.01

Original (the 3 that will be used to create final pieces)



Organic image



Urban image



Artistic image

Covnets/models



Covnet: InceptionV3

Layers: mixed3, mixed5

Octave scale: 1.30

Step size: 0.01

Steps: 50



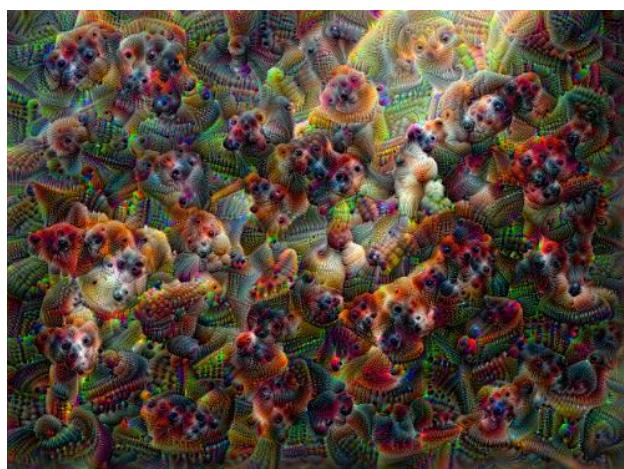
Covnet: InceptionV3

Layers: mixed3, mixed5

Octave scale: 1.30

Step size: 0.01

Steps: 50



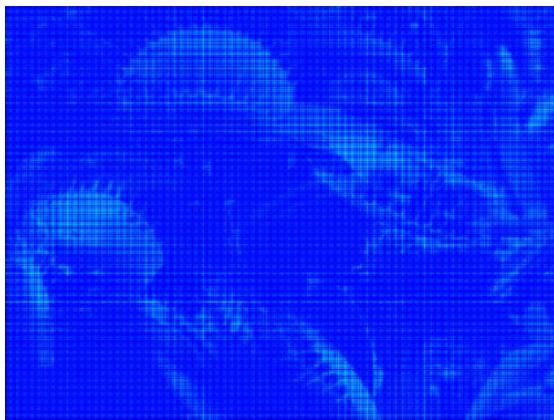
Covnet: InceptionV3

Layers: mixed3, mixed5

Octave scale: 1.30

Step size: 0.01

Steps: 50

**Covnet: Xception**

Layers: block1_conv1

Octave scale: 1.30

Step size: 0.01

Steps: 50 (too blue)

**Covnet: Xception**

Layers: block1_conv1

Octave scale: 1.30

Step size: 0.01

Steps: 20

**Covnet: Xception**

Layers: block1_conv1

Octave scale: 1.30

Step size: 0.01

Steps: 20

**Covnet: Xception**

Layers: block1_conv1

Octave scale: 1.30

Step size: 0.01

Steps: 20



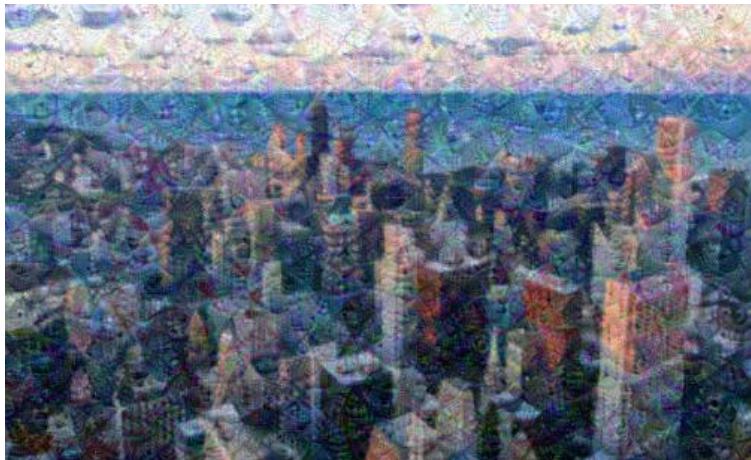
Covnet: MobileNet

Layers: conv_pw_9, conv_pw_8

Octave scale: 1.30

Step size: 0.01

Steps: 50



Covnet: MobileNet

Layers: conv_pw_9, conv_pw_8

Octave scale: 1.30

Step size: 0.01

Steps: 50



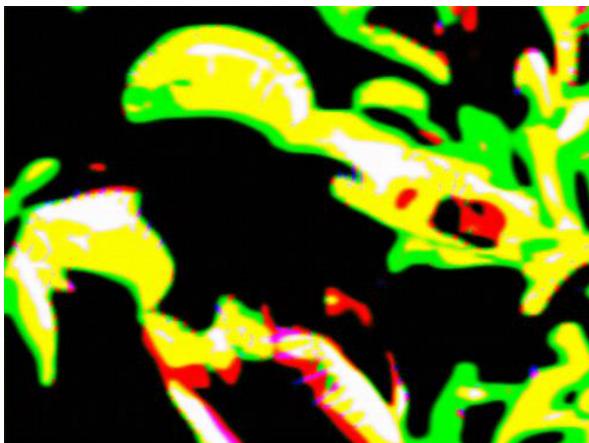
Covnet: MobileNet

Layers: conv_pw_9, conv_pw_8

Octave scale: 1.30

Step size: 0.01

Steps: 50



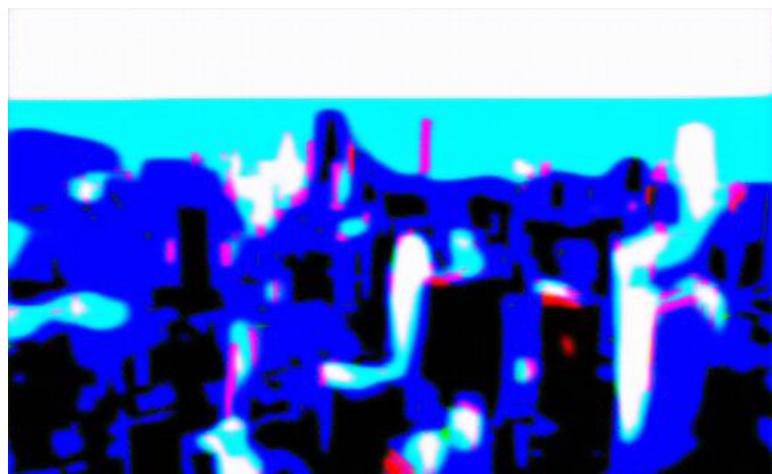
Covnet: DenseNet121

Layers: conv2_block1_1_conv

Octave scale: 1.30

Step size: 0.01

Steps: 50



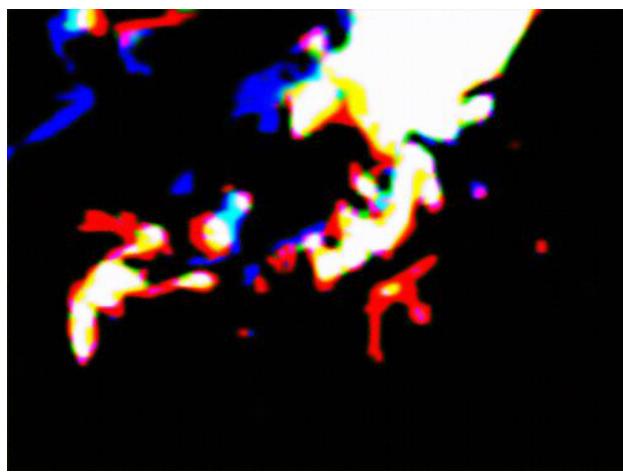
Covnet: DenseNet121

Layers: conv2_block1_1_conv

Octave scale: 1.30

Step size: 0.01

Steps: 50



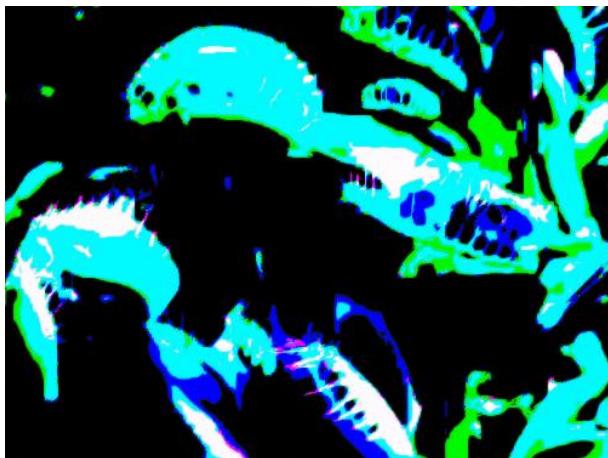
Covnet: DenseNet121

Layers: conv2_block1_1_conv

Octave scale: 1.30

Step size: 0.01

Steps: 50



Covnet: ResNet50

Layers: conv2_block1_0_conv

Octave scale: 1.30

Step size: 0.01

Steps: 50



Covnet: ResNet50

Layers: conv2_block1_0_conv

Octave scale: 1.30

Step size: 0.01

Steps: 50



Covnet: ResNet50

Layers: conv2_block1_0_conv

Octave scale: 1.30

Step size: 0.01

Steps: 50

Layers

Image 1 (Natural image – Venus Fly Trap)



Covnet: InceptionV3
Layers: conv2d_306,
conv2d_308, conv2d_309,
conv2d_315 (upper)

Octave scale: 1.30
Step size: 0.01
Steps: 50



Covnet: InceptionV3
Layers: conv2d_378,
conv2d_390, conv2d_392,
conv2d_398 (lower)

Octave scale: 1.30
Step size: 0.01
Steps: 50



Covnet: InceptionV3
Layers: mixed2, mixed8,
mixed9, mixed10

Octave scale: 1.30
Step size: 0.01
Steps: 50



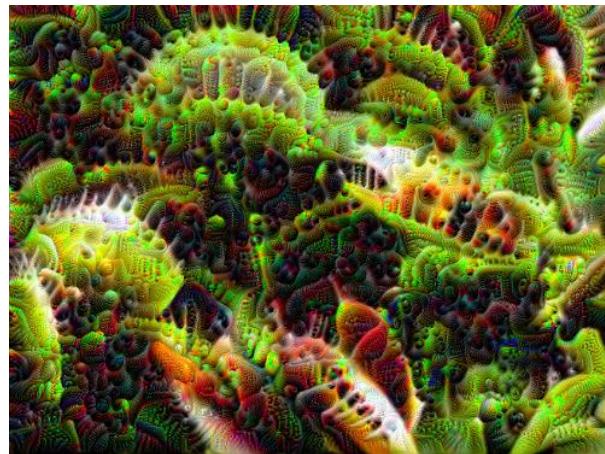
Covnet: InceptionV3

Layers: mixed1, mixed2,
mixed10

Octave scale: 1.30

Step size: 0.01

Steps: 50



Covnet: InceptionV3

Layers: mixed1, mixed2

Octave scale: 1.30

Step size: 0.01

Steps: 50



Covnet: InceptionV3

Layers: mixed2, mixed3, mixed5

Octave scale: 1.30

Step size: 0.01

Steps: 50

Image 2 (Urban image – City)



Covnet: Xception

**Layers: block1_conv2, conv2d_494
(upper)**

Octave scale: 1.30

Step size: 0.01

Steps: 20



Covnet: Xception

Layers: convd_497 (lower)

Octave scale: 1.30

Step size: 0.01

Steps: 20



Covnet: Xception

**Layers: block1_conv1, conv2d_494,
conv2d_497**

Octave scale: 1.30

Step size: 0.01

Steps: 20



Covnet: Xception

Layers: `block1_conv1`,
`block1_conv2`, `conv2d_494`

Octave scale: 1.30

Step size: 0.01

Steps: 20



Covnet: Xception

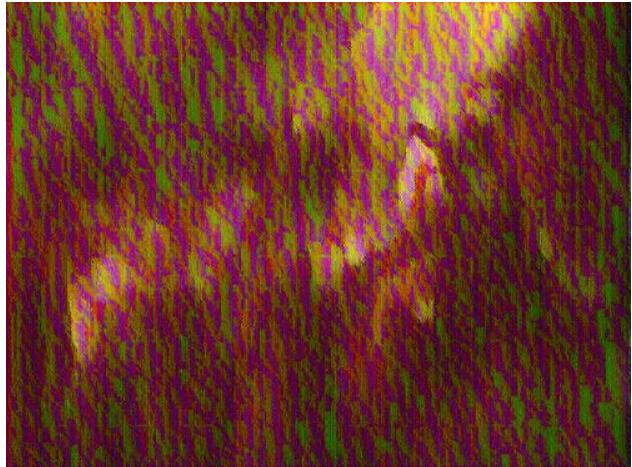
Layers: `block1_conv1`,
`block1_conv2`

Octave scale: 1.30

Step size: 0.01

Steps: 20

Image 3 (Artistic image –The Fall of Phaeton)



Covnet: MobileNet

Layers: conv_pw_1, conv_pw_2, con_pw_3 (upper)

Octave scale: 1.30

Step size: 0.01

Steps: 50



Covnet: MobileNet

Layers: conv_pw_11, conv_pw_12, con_pw_13 (lower)

Octave scale: 1.30

Step size: 0.01

Steps: 50



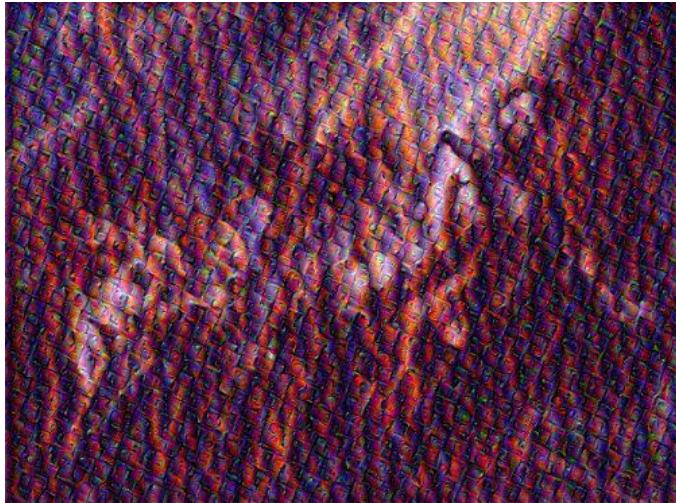
Covnet: MobileNet

Layers: conv_pw_3, conv_pw_5, con_pw_7

Octave scale: 1.30

Step size: 0.01

Steps: 50



Covnet: MobileNet

Layers: conv_pw_1, conv_pw_4

Octave scale: 1.30

Step size: 0.01

Steps: 50



Covnet: MobileNet

Layers: conv_pw_9, conv_pw_10, con_pw_11

Octave scale: 1.30

Step size: 0.01

Steps: 50

Octave scale

Image 1 (Natural image – Venus Fly Trap)



Covnet: InceptionV3

Layers: mixed3, mixed5

Octave scale: 1.0

Step size: 0.01

Steps: 50



Covnet: InceptionV3

Layers: mixed3, mixed5

Octave scale: 2.0

Step size: 0.01

Steps: 50



Covnet: InceptionV3

Layers: mixed3, mixed5

Octave scale: 0.70

Step size: 0.01

Steps: 50

Image 2 (Urban image – City)



Covnet: Xception

Layers: block1_conv1, block1_conv2

Octave scale: 1.0

Step size: 0.01

Steps: 20



Covnet: Xception

Layers: block1_conv1, block1_conv2

Octave scale: 1.50

Step size: 0.01

Steps: 20

Image 3 (Artistic image –The Fall of Phaeton)



Covnet: MobileNet

Layers: conv_pw_11,
conv_pw_12, con_pw_13

Octave scale: 1.0

Step size: 0.01

Steps: 50



Covnet: MobileNet

Layers: conv_pw_11,
conv_pw_12, con_pw_13

Octave scale: 1.50

Step size: 0.01

Steps: 50

Step Size

Image 1 (Natural image – Venus Fly Trap)



Covnet: InceptionV3
Layers: mixed3, mixed5
Octave scale: 2.0 (accidentally)
Step size: 0.03
Steps: 50



Covnet: InceptionV3
Layers: mixed3, mixed5
Octave scale: 1.0
Step size: 0.008
Steps: 50

Image 2 (Urban image – City)



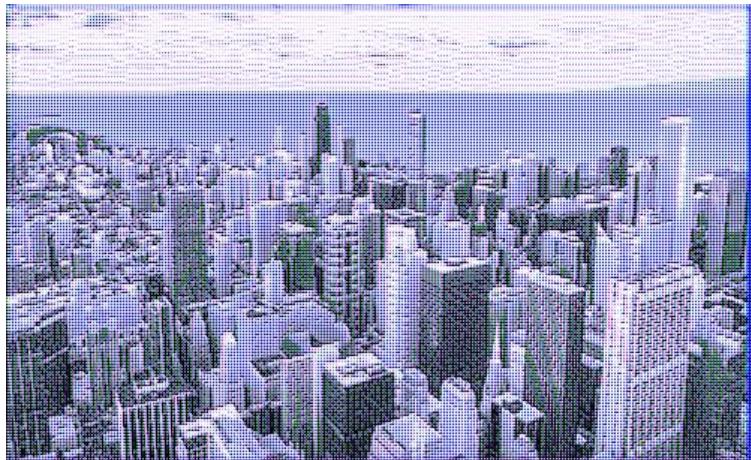
Covnet: Xception

Layers: block1_conv1, block1_conv2

Octave scale: 1.0

Step size: 0.008

Steps: 20



Covnet: Xception

Layers: block1_conv1, block1_conv2

Octave scale: 1.0

Step size: 0.02

Steps: 20



Covnet: Xception

Layers: block1_conv1, block1_conv2

Octave scale: 1.0

Step size: 0.009

Steps: 20

Image 3 (Artistic image –The Fall of Phaeton)



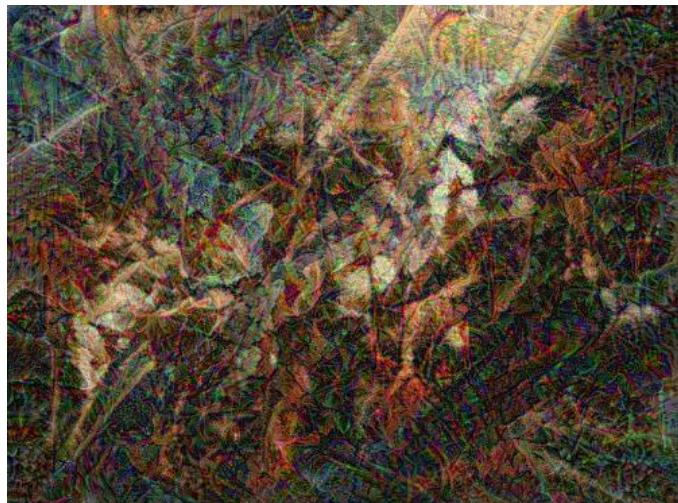
Covnet: MobileNet

Layers: conv_pw_11,
conv_pw_12, con_pw_13

Octave scale: 1.30

Step size: 0.008

Steps: 50



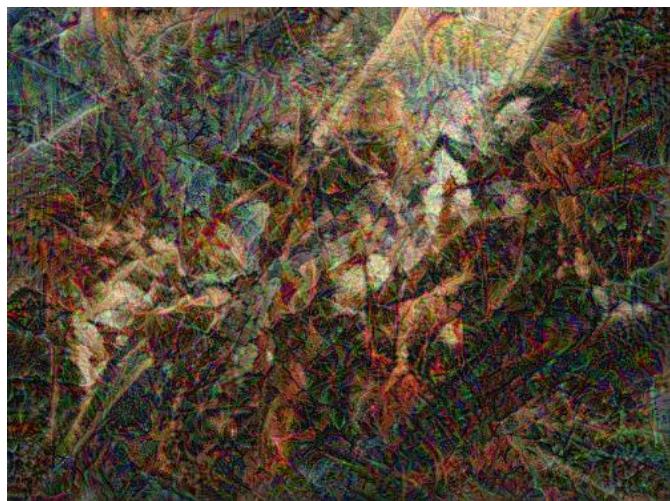
Covnet: MobileNet

Layers: conv_pw_11,
conv_pw_12, con_pw_13

Octave scale: 1.30

Step size: 0.02

Steps: 50



Covnet: MobileNet

Layers: conv_pw_11,
conv_pw_12, con_pw_13

Octave scale: 1.30

Step size: 0.03

Steps: 50

Steps

Image 1 (Natural image – Venus Fly Trap)



Covnet: InceptionV3

Layers: mixed3, mixed5

Octave scale: 1.0

Step size: 0.008

Steps: 100



Covnet: InceptionV3

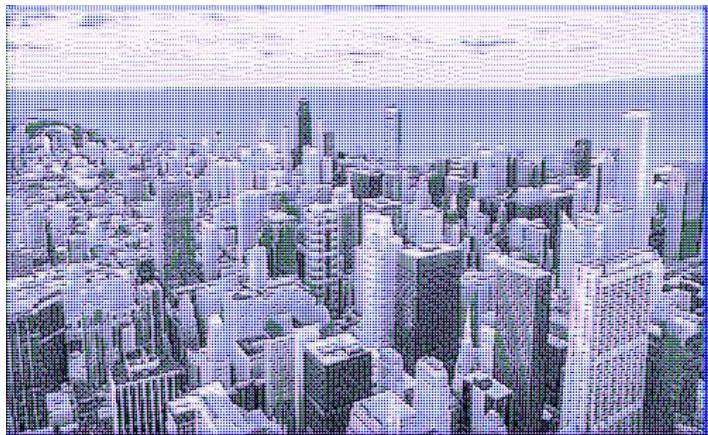
Layers: mixed3, mixed5

Octave scale: 1.0

Step size: 0.008

Steps: 65

Image 2 (Urban image – City)



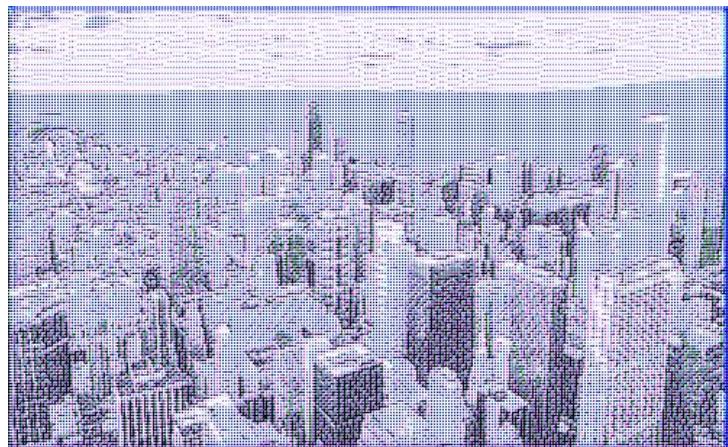
Covnet: Xception

Layers: block1_conv1, block1_conv2

Octave scale: 1.0

Step size: 0.009

Steps: 50



Covnet: Xception

Layers: block1_conv1, block1_conv2

Octave scale: 1.0

Step size: 0.009

Steps: 100



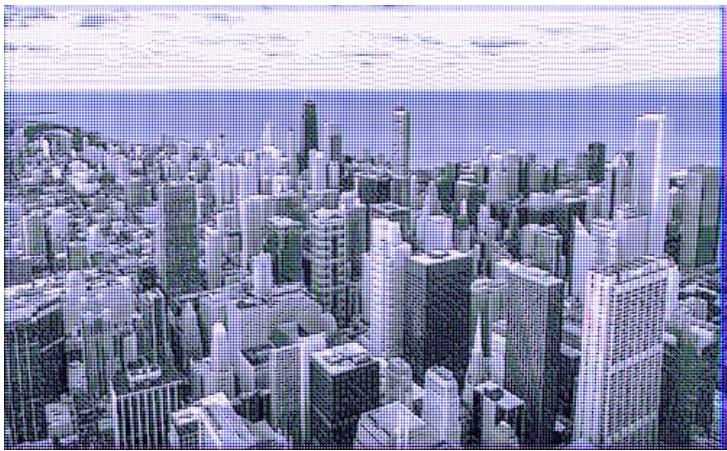
Covnet: Xception

Layers: block1_conv1, block1_conv2

Octave scale: 1.0

Step size: 0.009

Steps: 10



Covnet: Xception

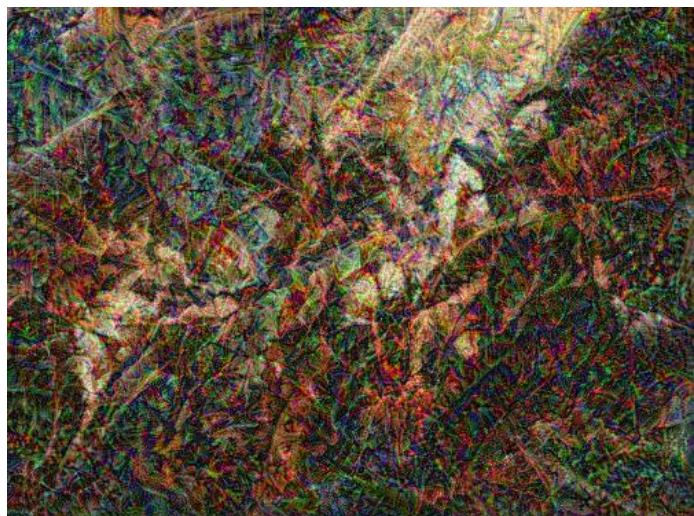
Layers: block1_conv1, block1_conv2

Octave scale: 1.0

Step size: 0.009

Steps: 30

Image 3 (Artistic image –The Fall of Phaeton)



Covnet: MobileNet
Layers: conv_pw_11,
conv_pw_12, con_pw_13
Octave scale: 1.30
Step size: 0.02
Steps: 100



Covnet: MobileNet
Layers: conv_pw_11,
conv_pw_12, con_pw_13
Octave scale: 1.30
Step size: 0.02
Steps: 20

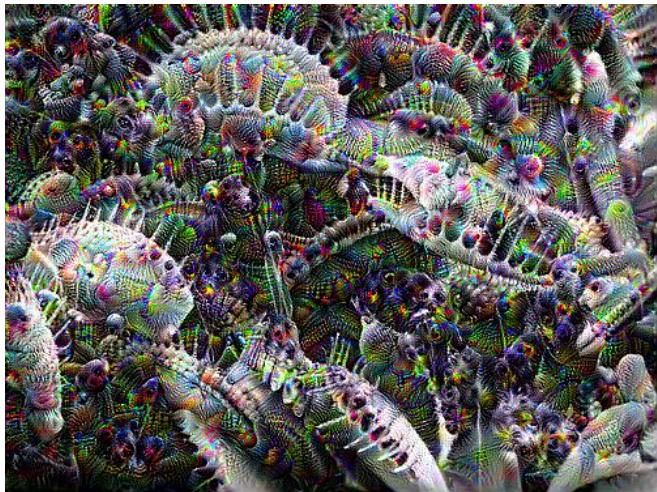


Covnet: MobileNet
Layers: conv_pw_11,
conv_pw_12, con_pw_13
Octave scale: 1.30
Step size: 0.02
Steps: 30

Black and White

Original 3



**Final: natural**

Covnet: InceptionV3

Layers: mixed3, mixed5

Octave scale: 1.0

Step size: 0.008

Steps: 100

**Final: urban**

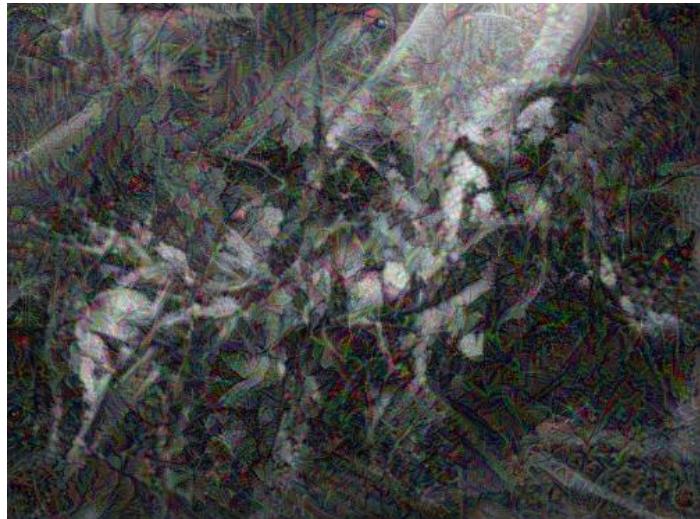
Covnet: Xception

Layers: block1_conv1, block1_conv2

Octave scale: 1.0

Step size: 0.009

Steps: 20

**Final: artistic**

Covnet: MobileNet

Layers: conv_pw_11,
conv_pw_12, con_pw_13

Octave scale: 1.30

Step size: 0.02

Steps: 20

Final natural



Final: natural

Covnet: InceptionV3

Layers: mixed3, mixed5

Octave scale: 1.0

Step size: 0.008

Steps: 100

Final urban



Final: urban

Covnet: Xception

Layers: block1_conv1, block1_conv2

Octave scale: 1.0

Step size: 0.009

Steps: 20

Final artistic



Final: artistic

Covnet: MobileNet

Layers: conv_pw_11,
conv_pw_12, con_pw_13

Octave scale: 1.30

Step size: 0.02

Steps: 20

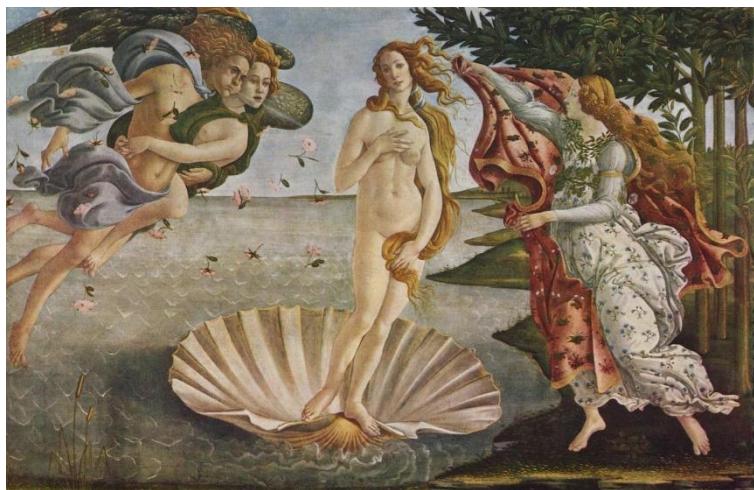
Extra image conversions



Natural model



Urban model



Artistic model



Artistic model



Natural model