Artificial intelligence in data science

Pre-trained networks

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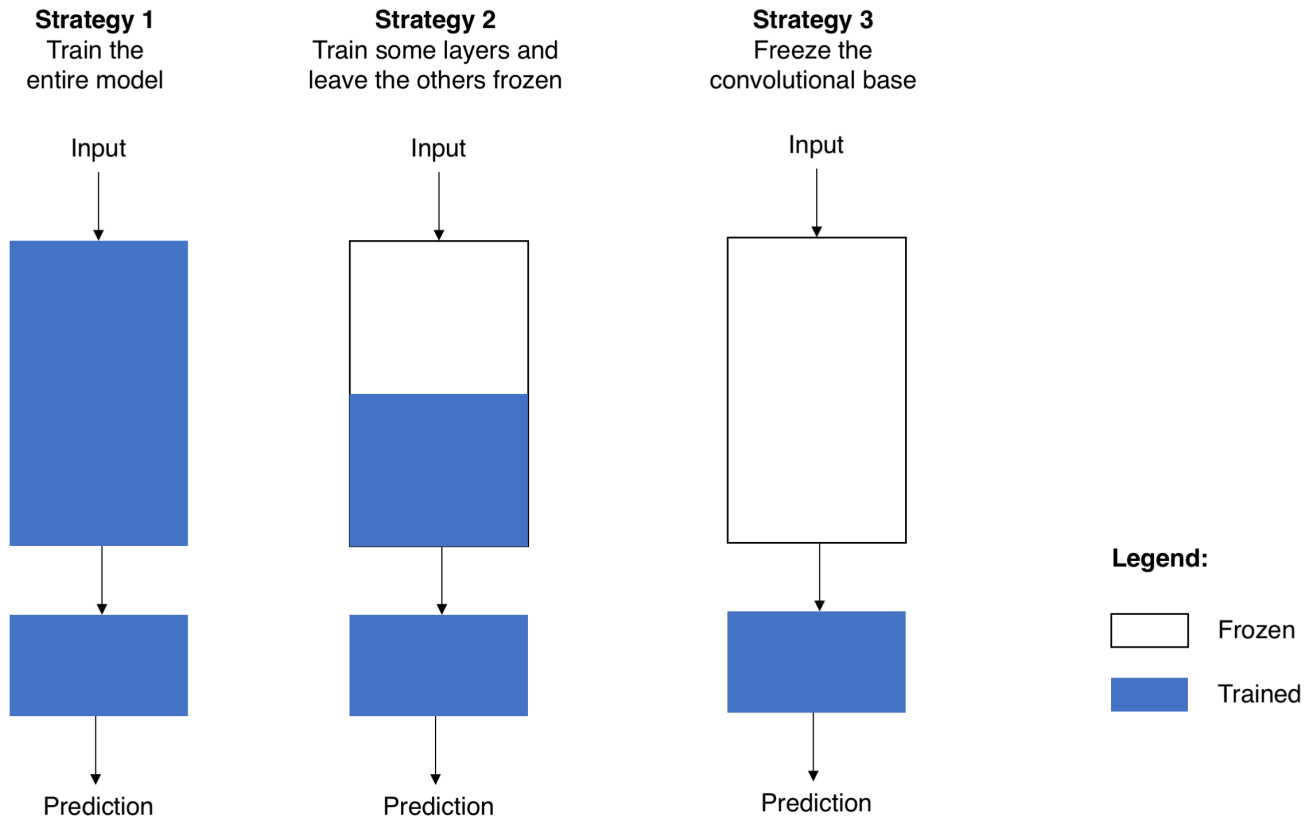
October 18, 2023

Why use pre-trained models?

- Real good data with reasonable sized images and many categories takes ages on big computer farms
- The data is similar to the previous one $\rightarrow$ gain time
- Strategies



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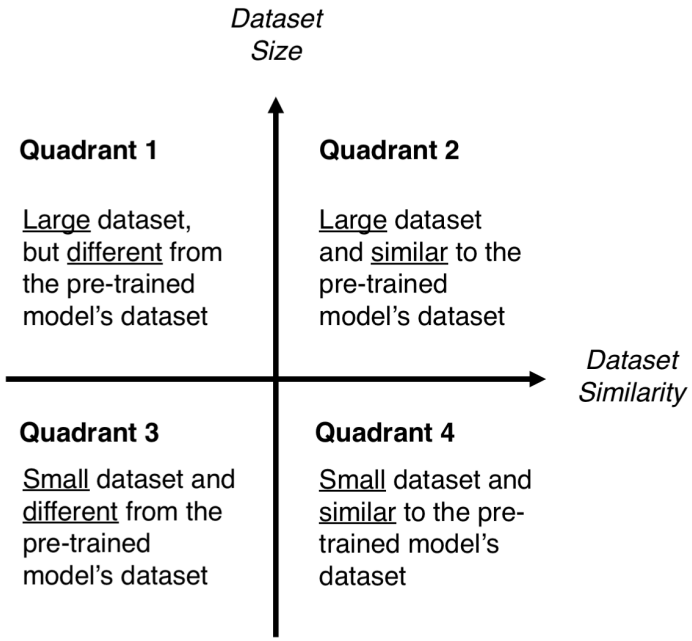
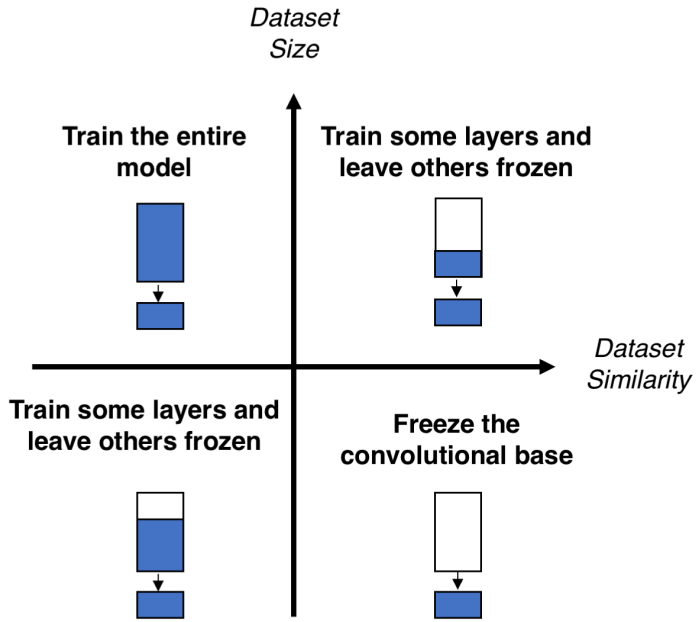


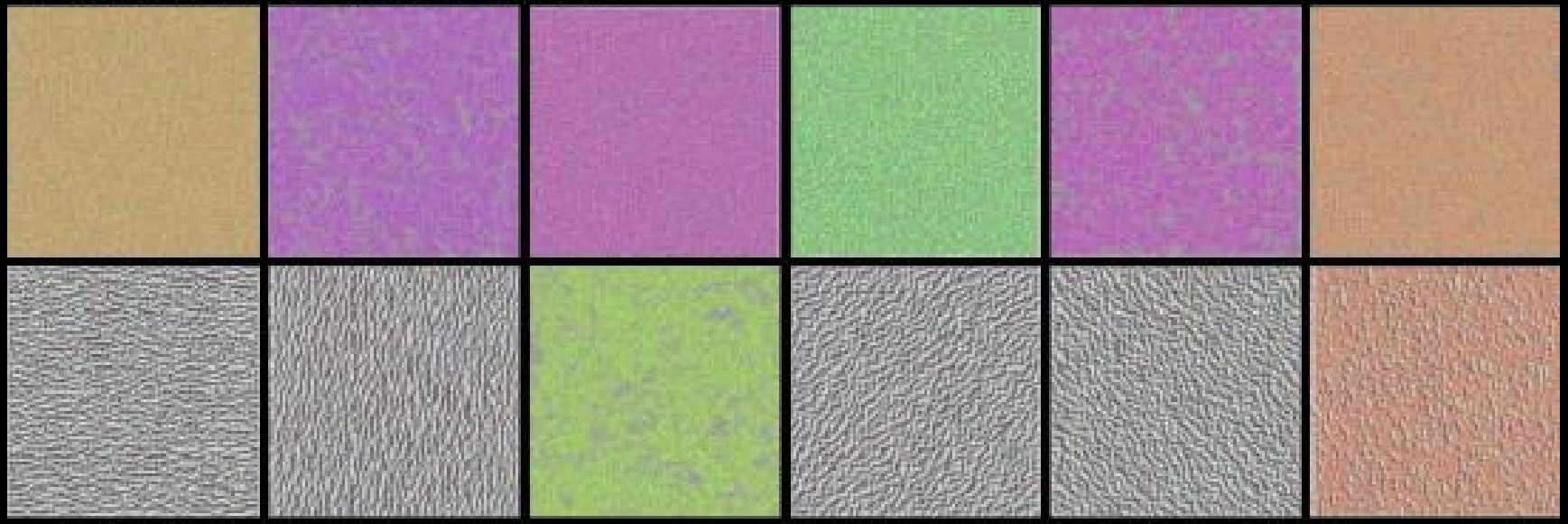


Visualization of different layers

- Algorithm:
- Use the optimization algorithm of tensorflow and maximize the outcome of one class
- We end up with images which will be 100% in one category
- How they look like?

Visualization of different layers

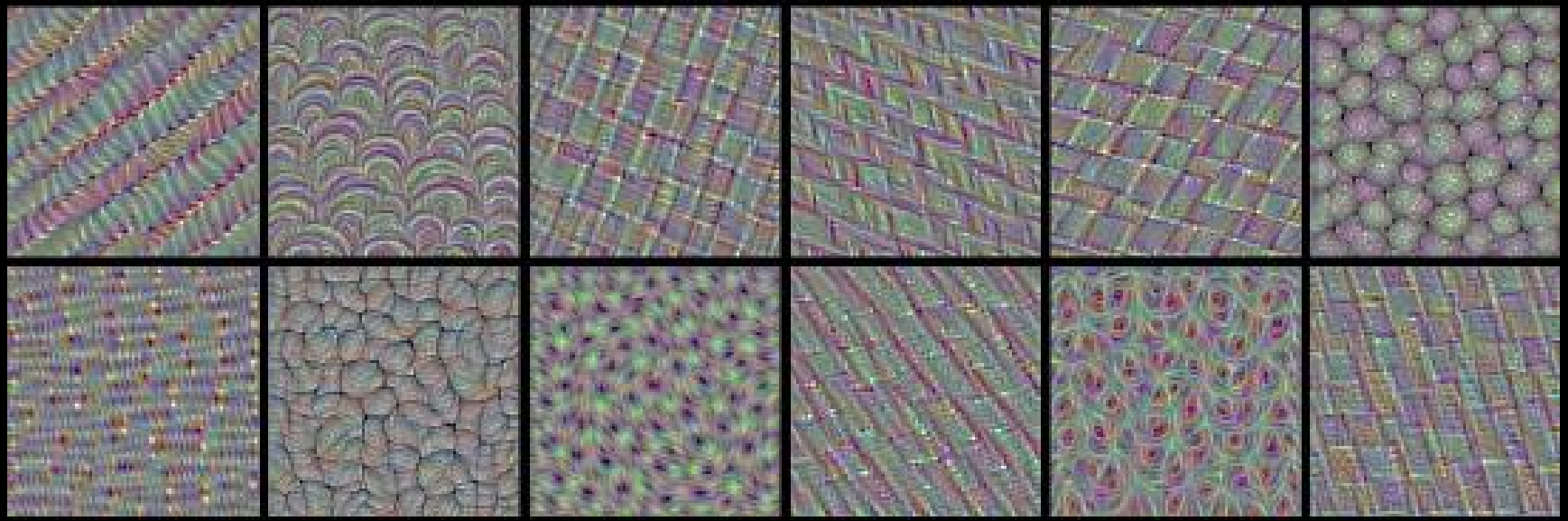
conv1_1: a few of the 64 filters



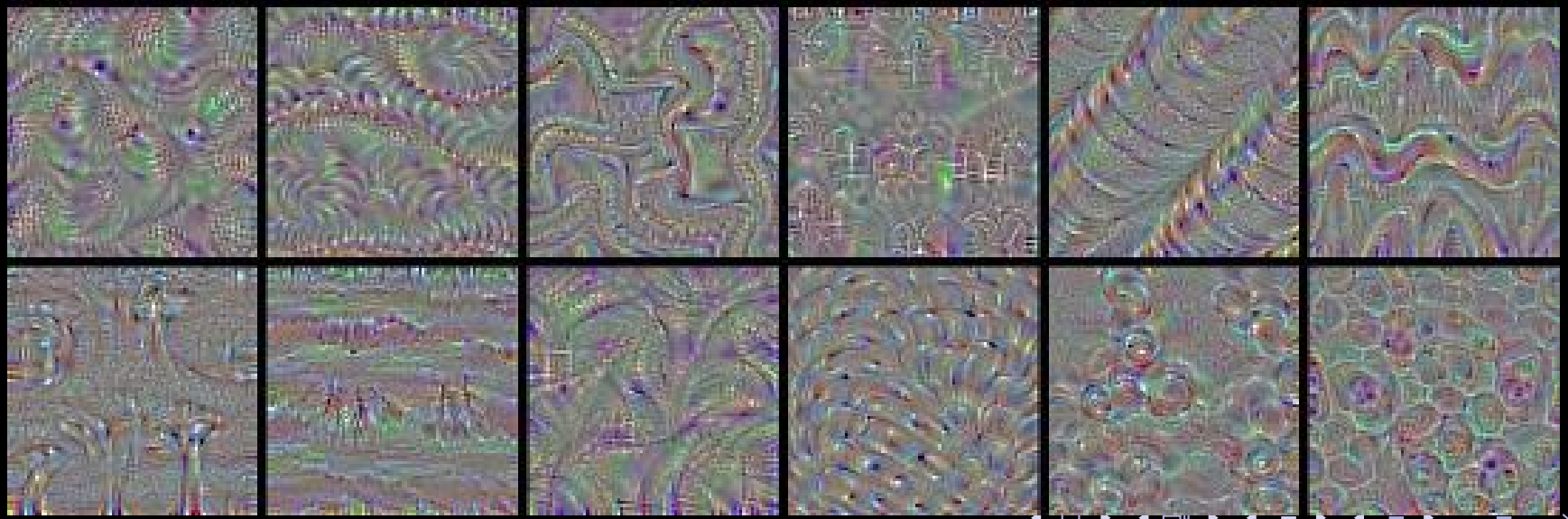
conv2_1: a few of the 128 filters

Visualization of different layers

conv4_1: a few of the 512 filters



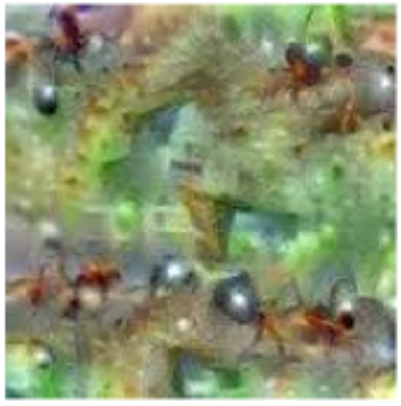
conv5_1: a few of the 512 filters



Visualization of different layers

Hartebeest

Measuring Cup



Ant

Starfish

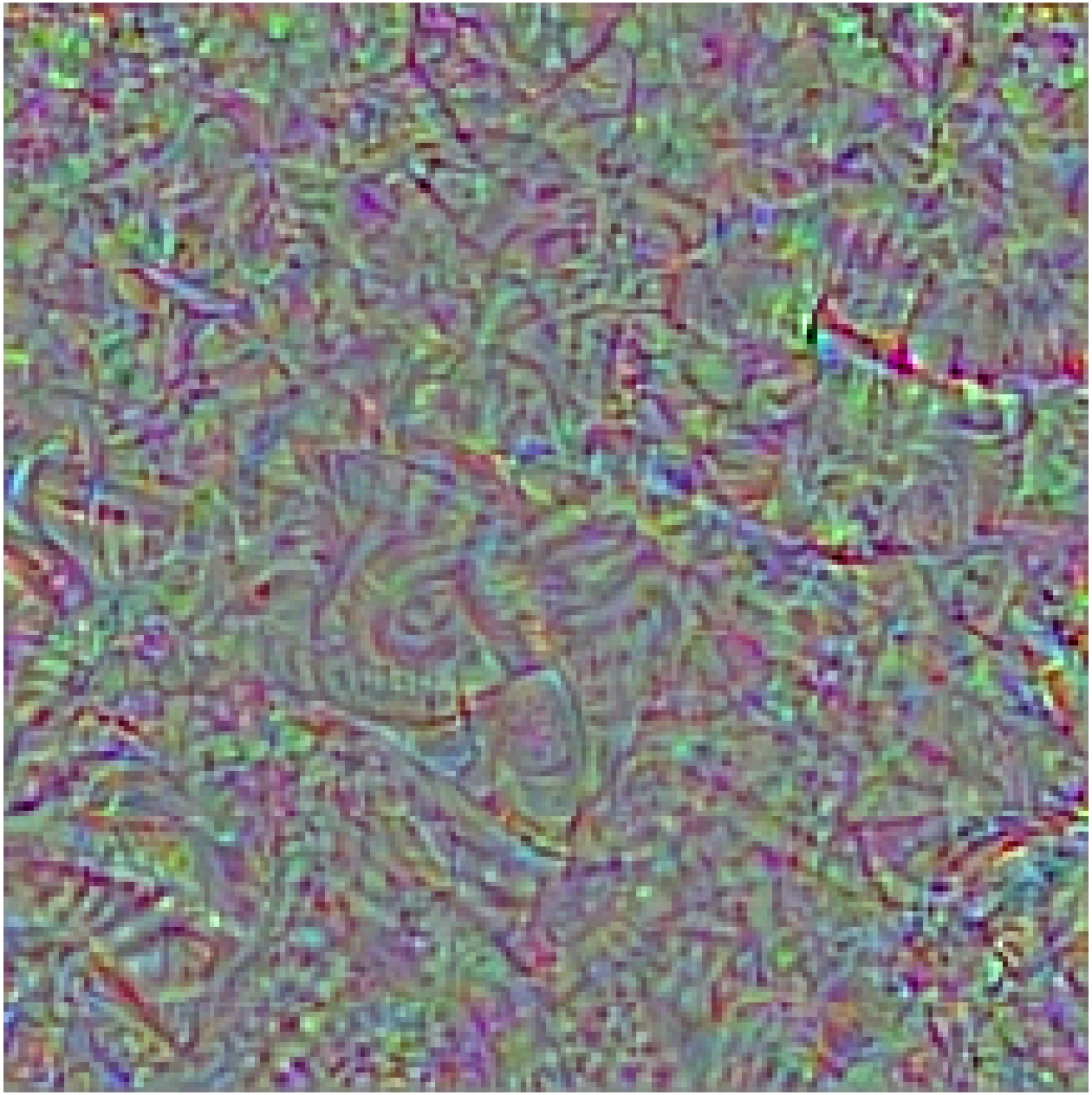
Anemone Fish

Banana

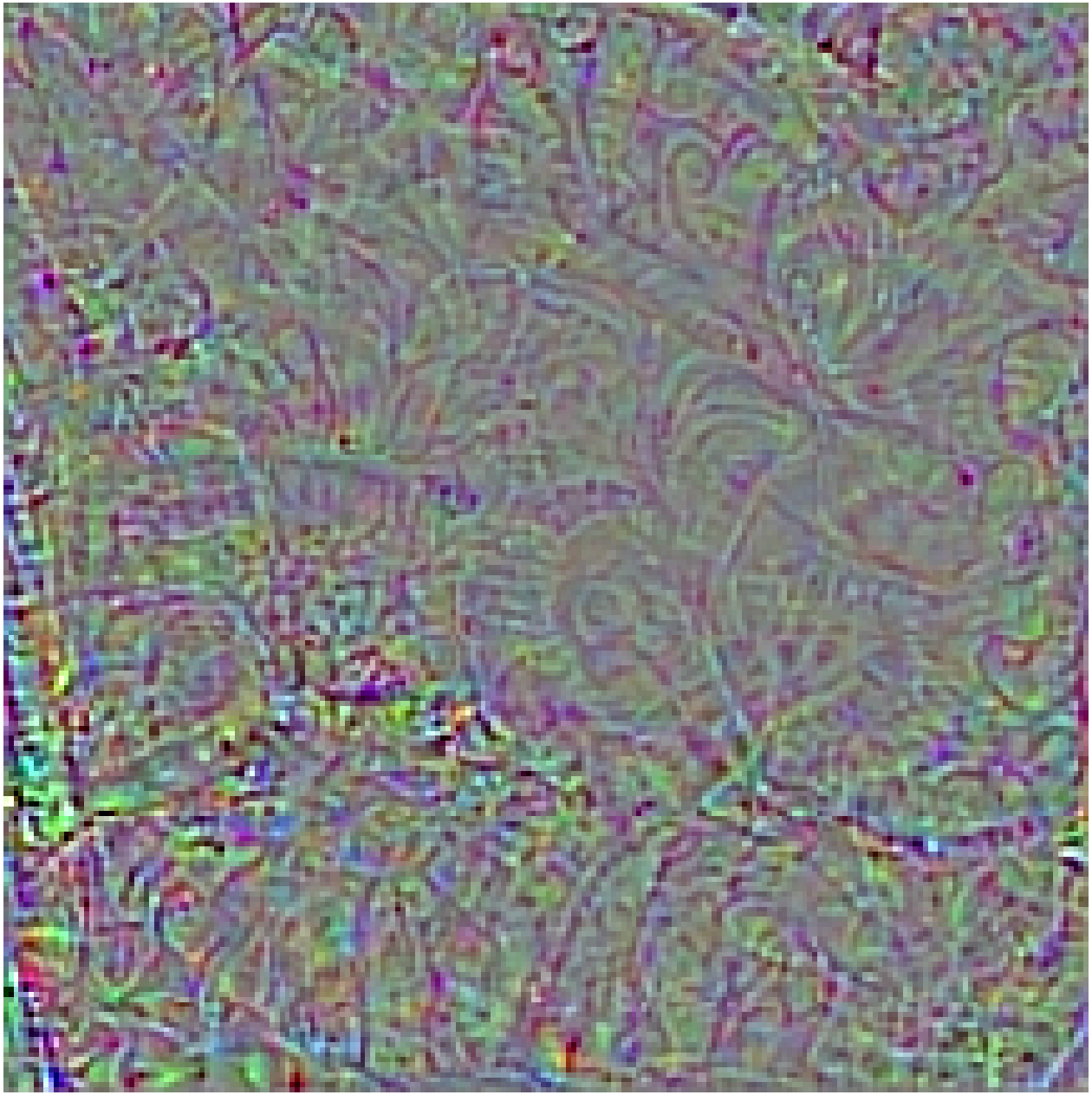
Parachute

Screw

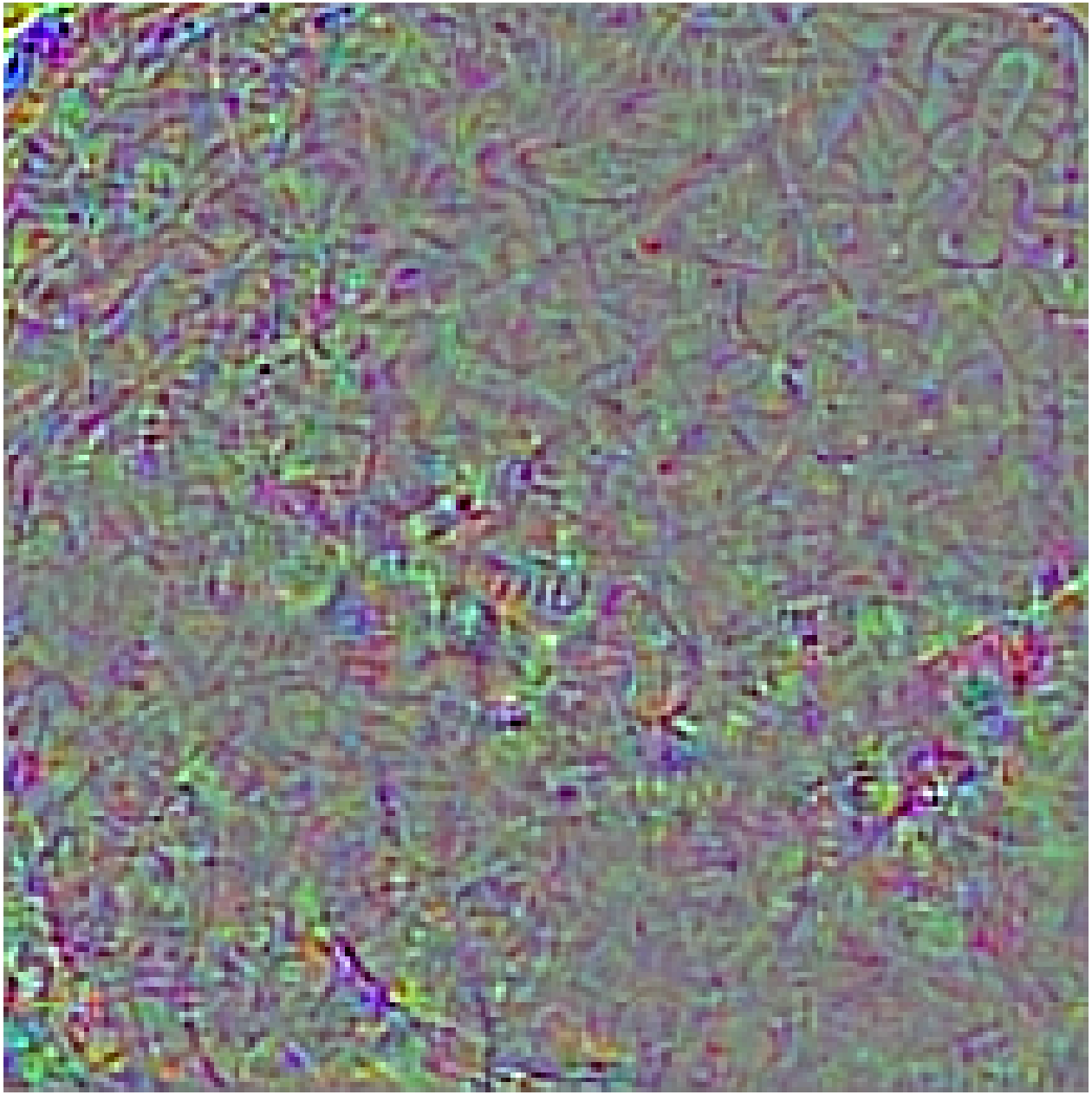
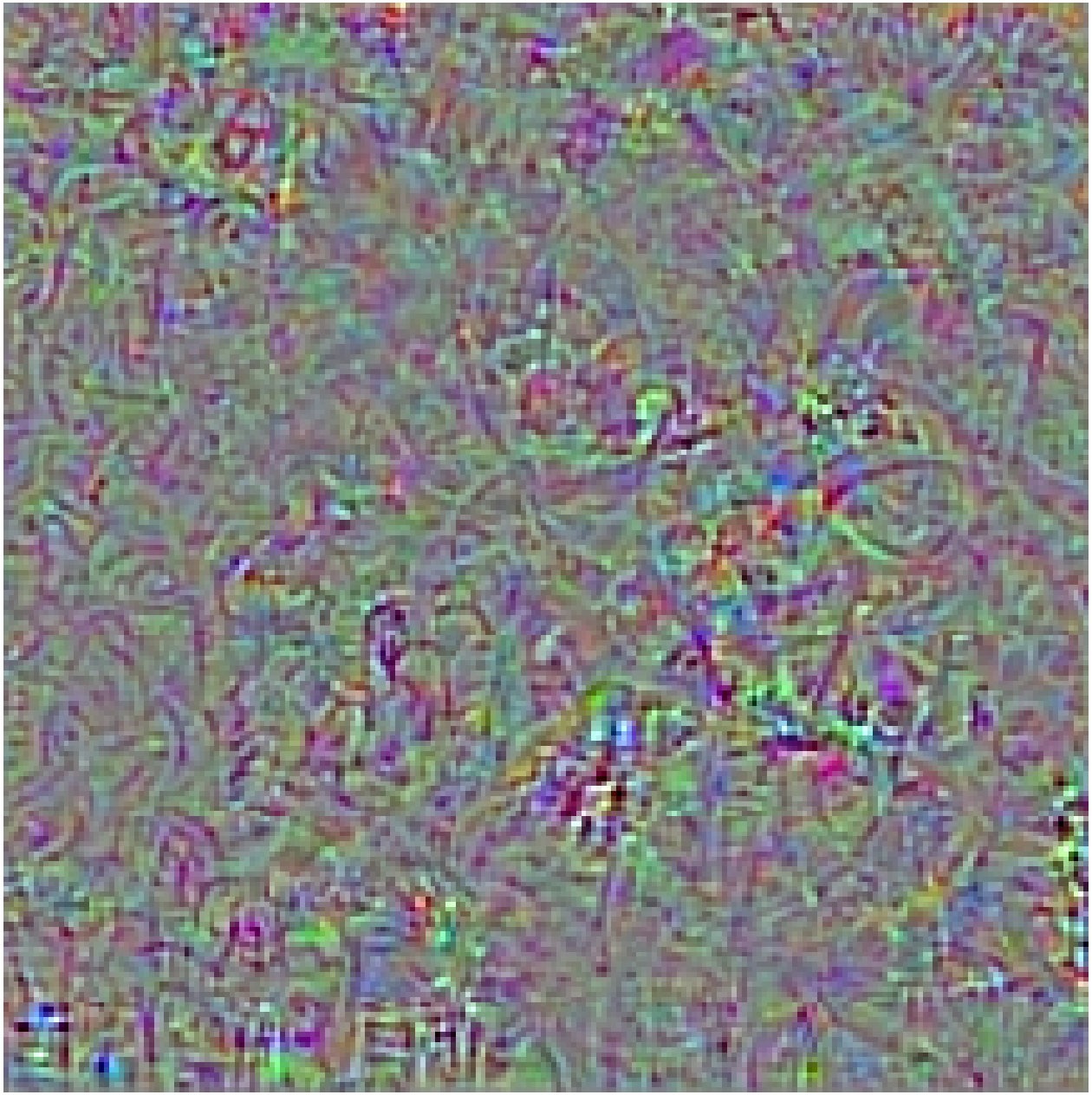
Sea snake



Rocking Chair



Rugby ball



Lake side