

Project I: Hybrid Images

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In case you do not have Mathematica to run this notebook, click on the following links to open the interactive sliders in your web browser:

Dog Cat: <https://www.wolframcloud.com/objects/e249c090-8d6f-464f-a8e6-27f9e4ce3b8b>

Bikes: <https://www.wolframcloud.com/objects/611e796e-4627-4ac1-bc0b-3adcd3d3ee1a>

Submarine Fish: <https://www.wolframcloud.com/objects/06efd97c-47d6-493b-9032-7b09fc98d69c>

Marilyn Einstein: <https://www.wolframcloud.com/objects/6b269bf8-394c-48c1-8cf7-c446c01674fe>

Plane Bird: <https://www.wolframcloud.com/objects/6ca262ba-37ce-4ad7-8b87-ba7ce196b03a>

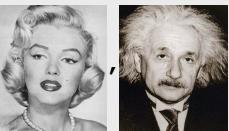
Initializing sample images

In[1]:=

```
dogcat = {
```

```
bikes = {
```

```
submarinefish = {
```

```
marylineinstein = {
```

```
planebird = {
```

Function to create hybrid images using the inbuilt blur function to separate frequencies

```
In[13]:= hybridImage[x_] := Manipulate[ImageAdd[Blur[x[[1]], b], ImageSubtract[x[[2]], Blur[x[[2]], b]]],  
(*Variable b here represents the cutoff frequency*)]
```

Display all the images with sliders to find the best cutoff frequency parameter

```
In[14]:= hybridImage[dogcat]  
hybridImage[bikes]  
hybridImage[submarinefish]  
hybridImage[marylineinstein]  
hybridImage[planebird]
```

Out[14]=

