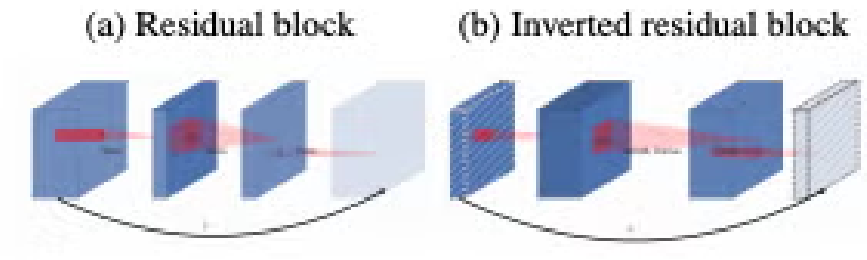
MobileNet v2



Input	Operator	t	c	n
$224^2 \times 3$	conv2d	-	32	1
$112^2 \times 32$	bottleneck	1	16	1
$112^2 \times 16$	bottleneck	6	24	2
$56^2 \times 24$	bottleneck	6	32	3
$28^2 \times 32$	bottleneck	6	64	4
$14^2 \times 64$	bottleneck	6	96	3
$14^2 \times 96$	bottleneck	6	160	3
$7^2 \times 160$	bottleneck	6	320	1
$7^2 \times 320$	conv2d 1x1	-	1280	1
$7^2 \times 1280$	avgpool 7x7	-	-	1
$1 \times 1 \times 1280$	conv2d 1x1	-	k	-

```
import torch
model = torch.hub.load('pytorch/vision:v0.10.0', 'mobilenet_v2', pr
model.eval()
```

```
# sample execution (requires torchvision)
from PIL import Image
from torchvision import transforms
input_image = Image.open(filename)
preprocess = transforms.Compose([
    transforms.Resize(256),
    transforms.CenterCrop(224),
    transforms.ToTensor(),
    transforms.Normalize(mean=[0.485, 0.456, 0.406], std=[0.229, 0.
])
input_tensor = preprocess(input_image)
input_batch = input_tensor.unsqueeze(0) # create a mini-batch as ex

# move the input and model to GPU for speed if available
if torch.cuda.is_available():
    input_batch = input_batch.to('cuda')
    model.to('cuda')

with torch.no_grad():
    output = model(input_batch)
```

```
# Show top categories per image
top5_prob, top5_catid = torch.topk(probabilities, 5)
for i in range(top5_prob.size(0)):
    print(categories[top5_catid[i]], top5_prob[i].item())
```

Model Description

The MobileNet v2 architecture is based on an inverted residual structure where the input and residual block are thin bottleneck layers opposite to traditional residual models which use exp representations in the input. MobileNet v2 uses lightweight depthwise convolutions to filter fea intermediate expansion layer. Additionally, non-linearities in the narrow layers were removed i representational power.

Model structure	Top-1 error	Top-5 er
mobilenet_v2	28.12	9.71

Submitted by: Pytorch Team

View on GitHub 17.4k

Open on Google Collab

Open Model Demo