

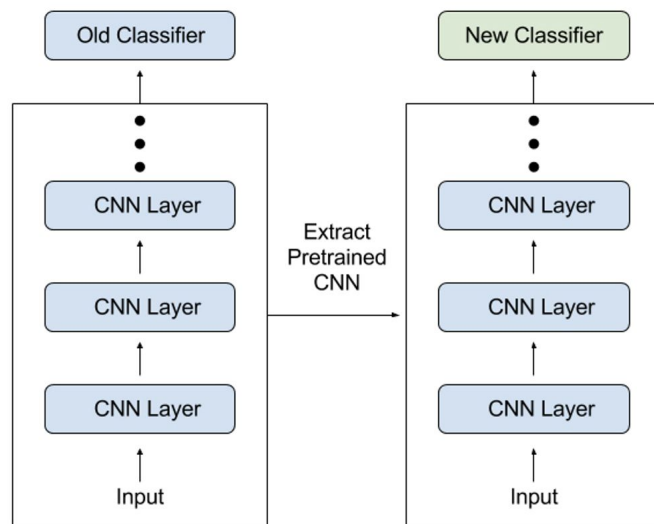
Transfer Learning & Visualizations

Lab 5

Apr 1, 2025

Transfer Learning

- Most of the time instead of creating and training a model from scratch, we can use the state of art models which have been pre-trained on large dataset like ImageNet.
- This process is called **transfer learning**.



Pretrained Model

New Model

Transfer Learning

- Let's say we have a new dataset which has two classes.
- We want to fine-tune the state of art model **residual net** which has been trained on ImageNet on our dataset.

```
model = models.resnet18(pretrained=True)
```

← Get the pre trained ResNet

```
num_fts = model.fc.in_features
```

← Get the number of features in last layer

```
model.fc = nn.Linear(num_fts, 2)
```

← Replace the last fully connected layer with a new layer

Your turn!



- Download the dataset at this link:
https://github.com/mrdbourke/pytorch-deep-learning/raw/main/data/pizza_steak_sushi.zip
- Solve the exercises at the linked notebook;
- Visualize the loss and accuracy behavior using wandb.

Notebook @

<https://colab.research.google.com/drive/12F1MewpyfmssKbNEBIKDIYsDVRb2tYQ0?usp=sharing>