

# CIFAR 100

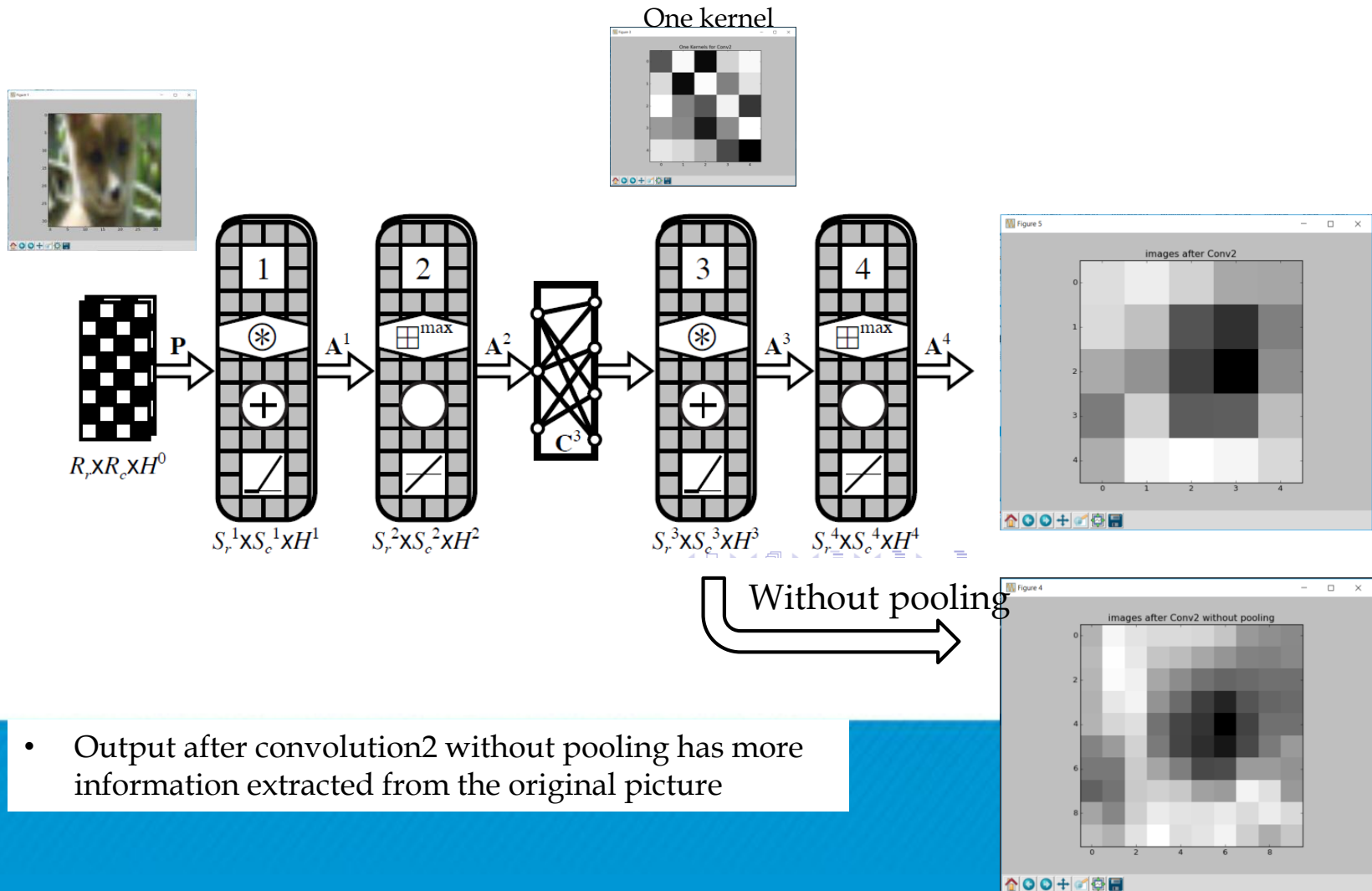
Training CNN with PyTorch on  
CIFAR100 dataset

# CNN in Pytorch

		CV_2	CV_5	CV_6
	batch size	200	200	200
	epoch	20	20	20
Conv1	nn.Conv2d(in_channels=3, out_channels=30, kernel_size=5)	v		v
	nn.Conv2d(in_channels=3, out_channels=30, kernel_size=5, stride=3)		v	
pool1	nn.MaxPool2d(kernel_size=2, stride=2)	v	v	v
Conv2	nn.Conv2d(in_channels=30, out_channels=80, kernel_size=5)	v		v
	nn.Conv2d(in_channels=30, out_channels=80, kernel_size=5, stride=1)		v	
pool2	nn.MaxPool2d(kernel_size=2, stride=2)	v		
ip	nn.Linear(**, 120)	v	v	v
	nn.Linear(**, 100)	v	v	v
	Accuracy	22%	12%	28%
	training time(s)	242	186	246

1. The accuracy decreases with the number of stride at convolution layer because feature maps did not sufficiently extract the feature of the picture.
  - The size of outputs of Conv2 down to 80x1x1
  - Suggest to increase the size of outputs of Conv2 layer by removing pool2 layer
2. Model CV\_6 without pool2 layer has a better performance at accuracy

# CNN in Pytorch



- Output after convolution2 without pooling has more information extracted from the original picture

# CIFAR100 Dataset

The CIFAR-100 dataset consists of 60000 32x32 colour images in 100 classes, with 600 images per class. There are 500 training images and 100 test images.