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AI+BD ML Lab. Day 5

Transfer Learning

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1. Understanding **Transfer Learning**
2. Understanding more about CNN Deep model
3. Make Code!

Backgrounds

For your information & reminding



More Data,
High Intelligence



Collecting data is
the most difficult thing





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the most difficult thing



How to solve?



Collecting data is
the most difficult thing



How to solve?

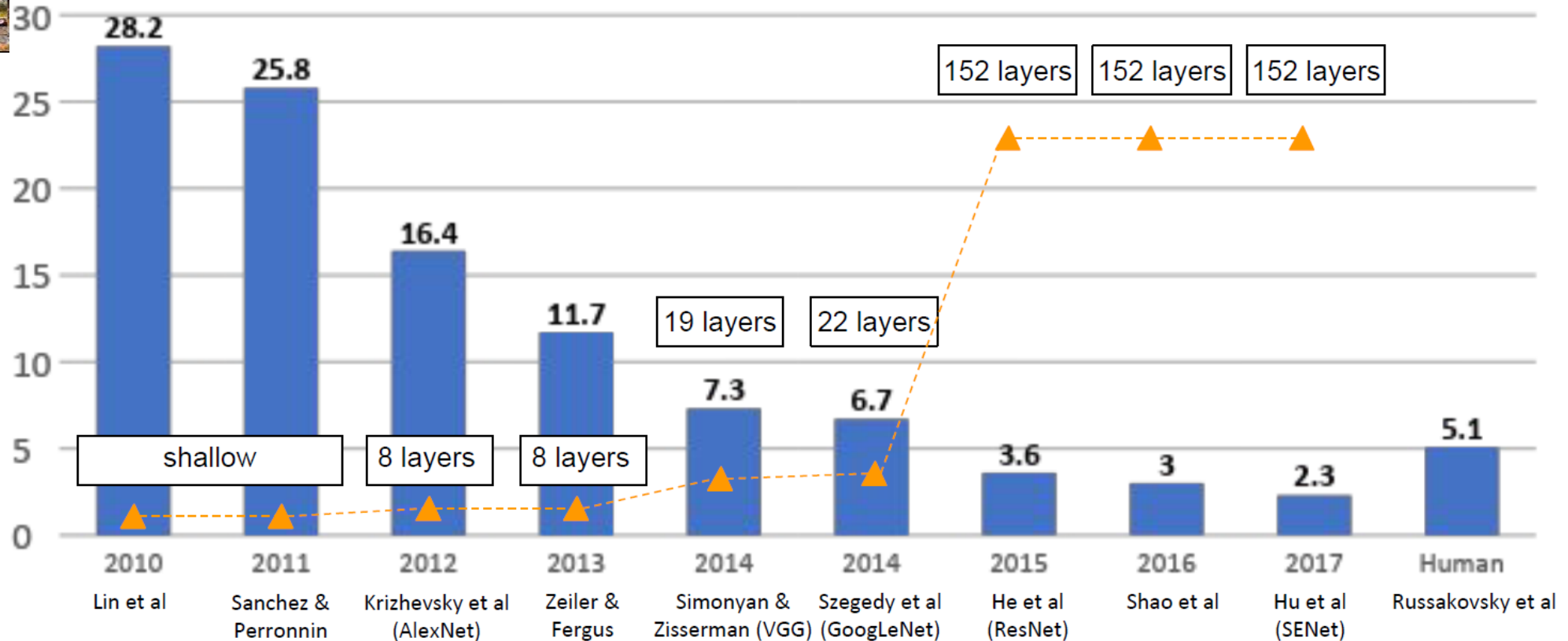
- Transfer Learning
- Self-supervised Learning
- Semi-supervised Learning
- ...

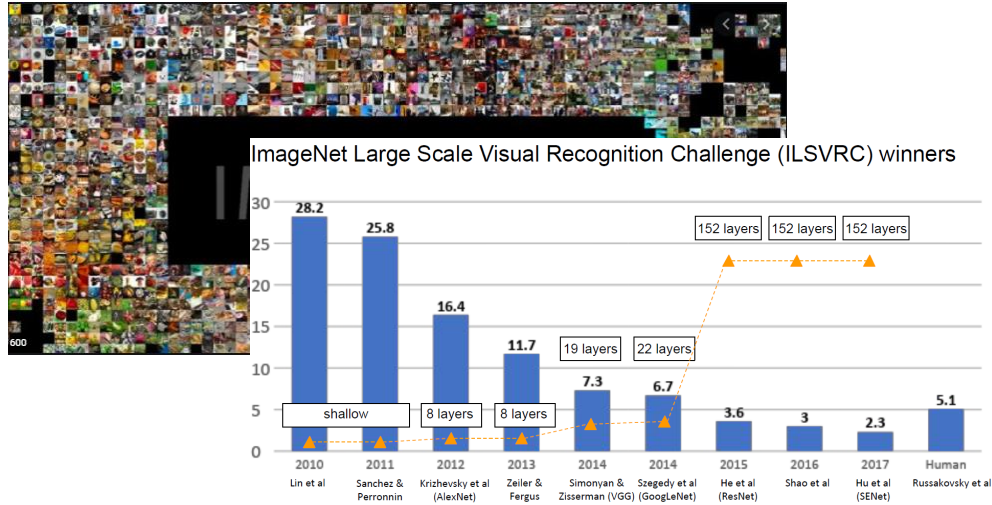


1000 Class, 14 million Data

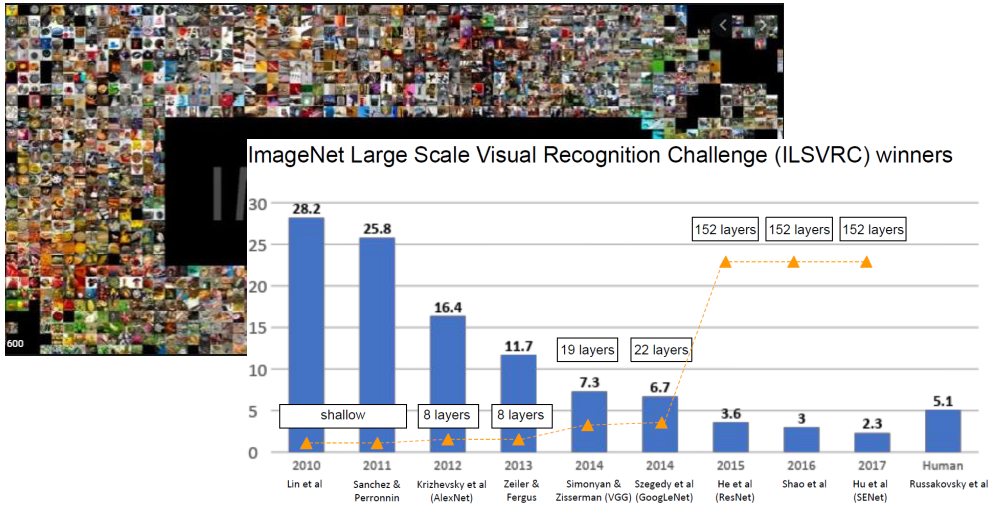


ImageNet Large Scale Visual Recognition Challenge (ILSVRC) winners

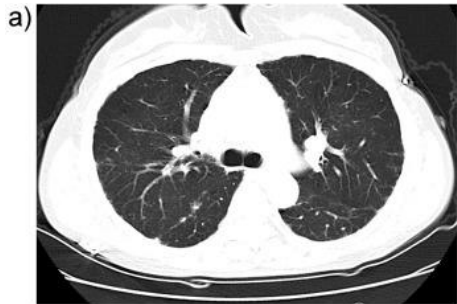
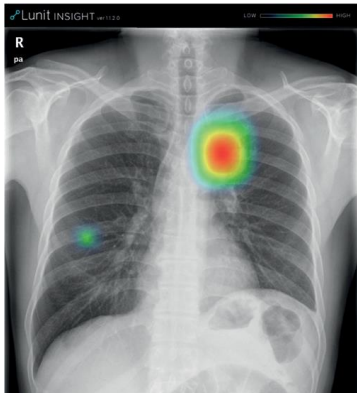


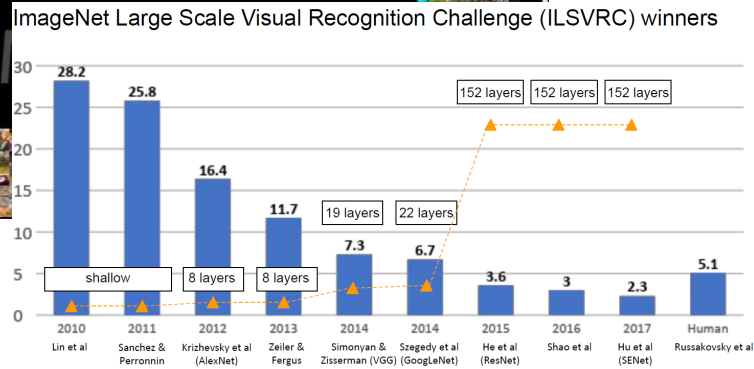
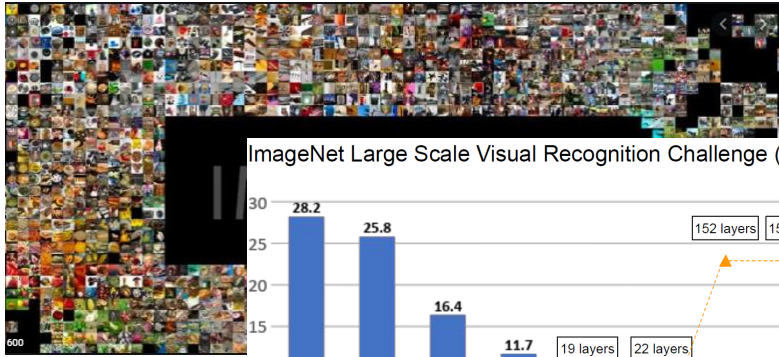


Why don't we REUSE this model?



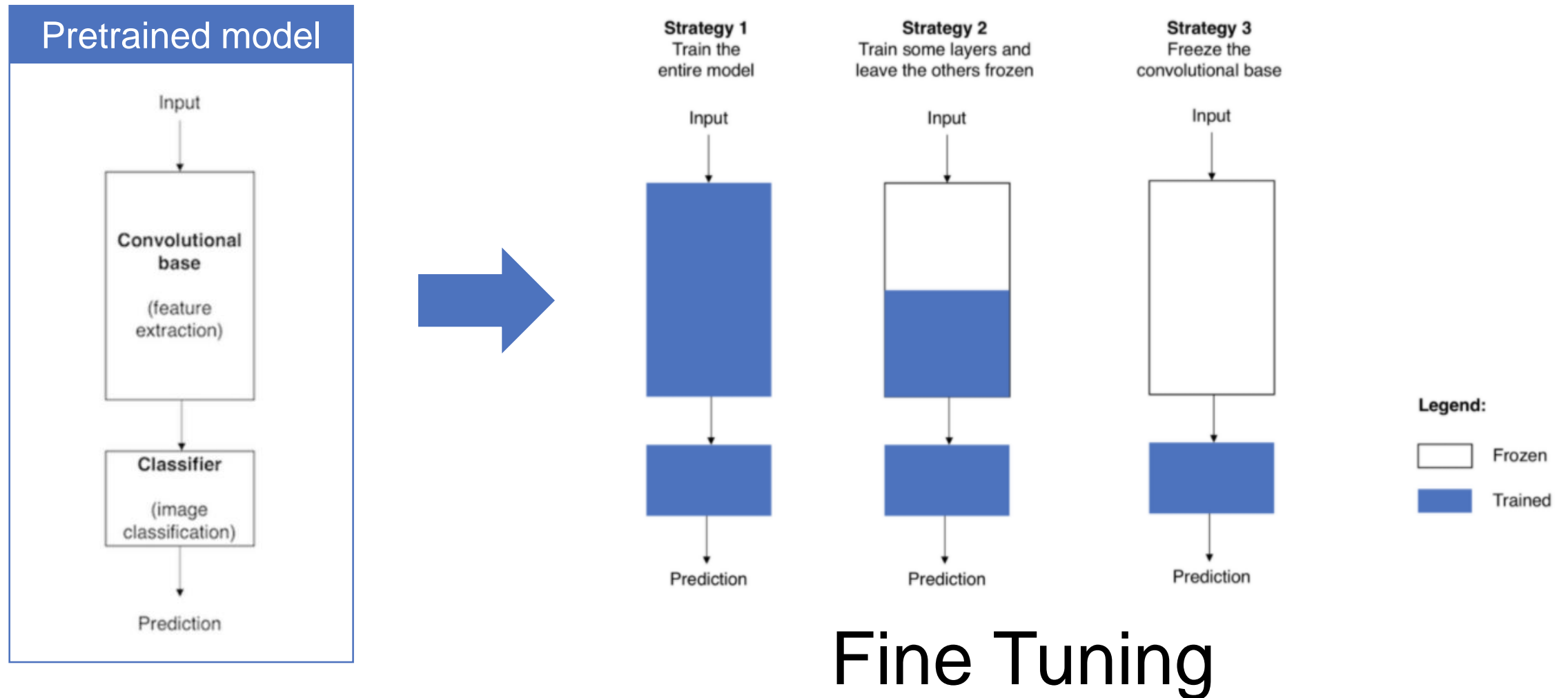
Why don't we REUSE this model?





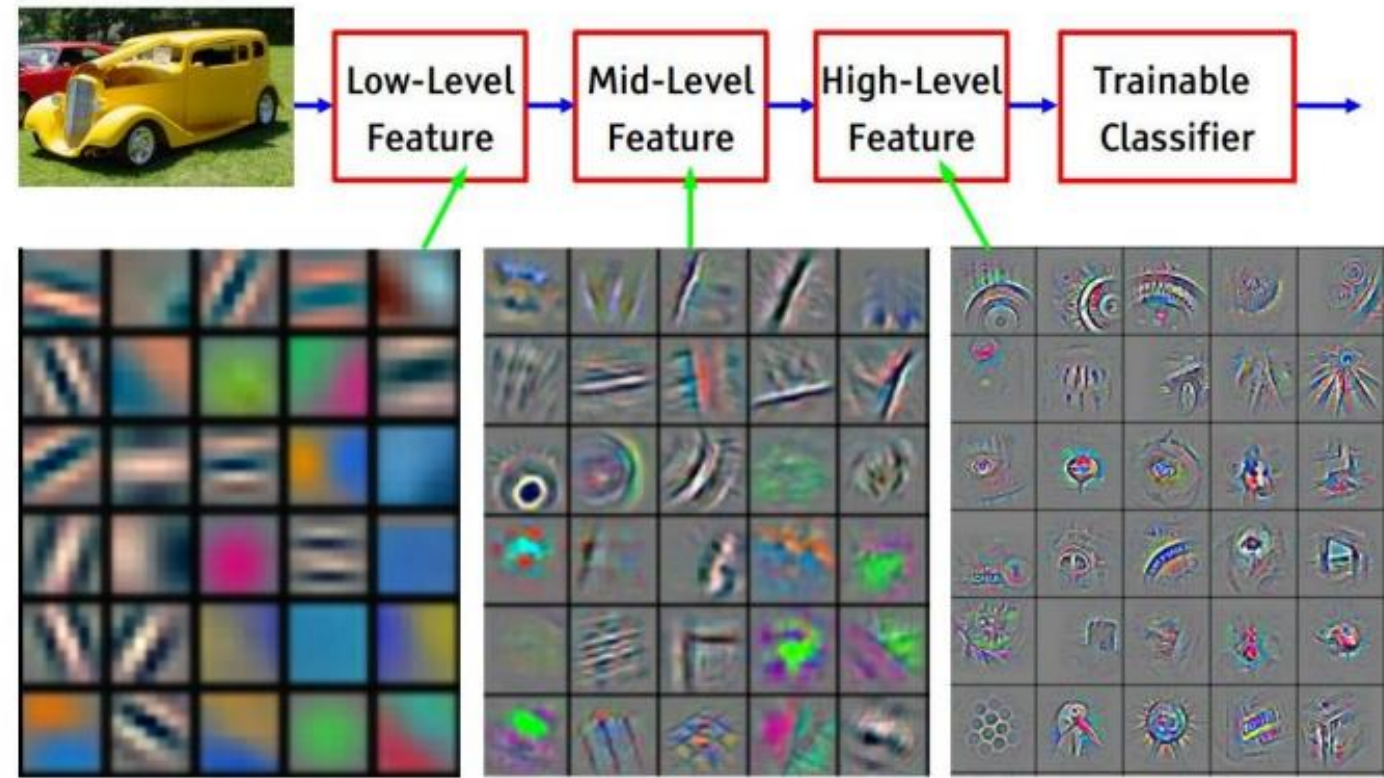
Why don't we REUSE this model?

Fine Tuning!

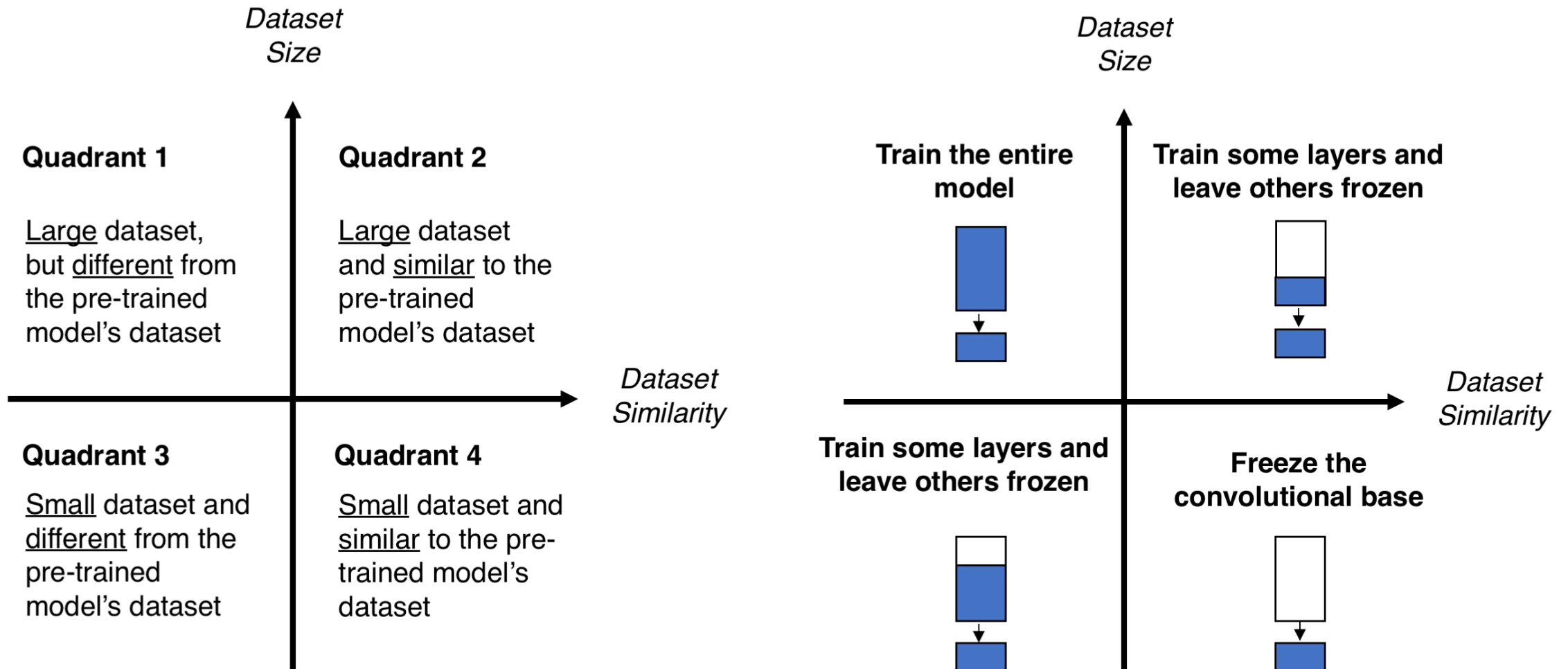




CNN Architecture



Feature visualization of convolutional net trained on ImageNet from [Zeiler & Fergus 2013]





MODEL ZOO

This page lists model archives that are pre-trained and pre-packaged, ready to be served for inference TorchServe. To propose a model for inclusion, please submit a [pull request](#).

Special thanks to the [PyTorch](#) community whose Model Zoo and Model Examples were used in generating model archives.

Model	Type	Dataset	Size	Download	Sample Input	Mode
AlexNet	Image Classification	ImageNet	216 MB	.mar	kitten.jpg	Eager
Densenet161	Image Classification	ImageNet	106 MB	.mar	kitten.jpg	Eager
Resnet18	Image Classification	ImageNet	41 MB	.mar	kitten.jpg	Eager
VGG11	Image Classification	ImageNet	471 MB	.mar	kitten.jpg	Eager
Squeezenet 1_1	Image Classification	ImageNet	4.4 MB	.mar	kitten.jpg	Eager
MNIST digit classifier	Image Classification	MNIST	4.3 MB	.mar	0.png	Eager

https://pytorch.org/serve/model_zoo.html

It's coding time

Let's fill the I.P.Y.N.B



Full code :

<https://git.io/aibd-tl-5-full>