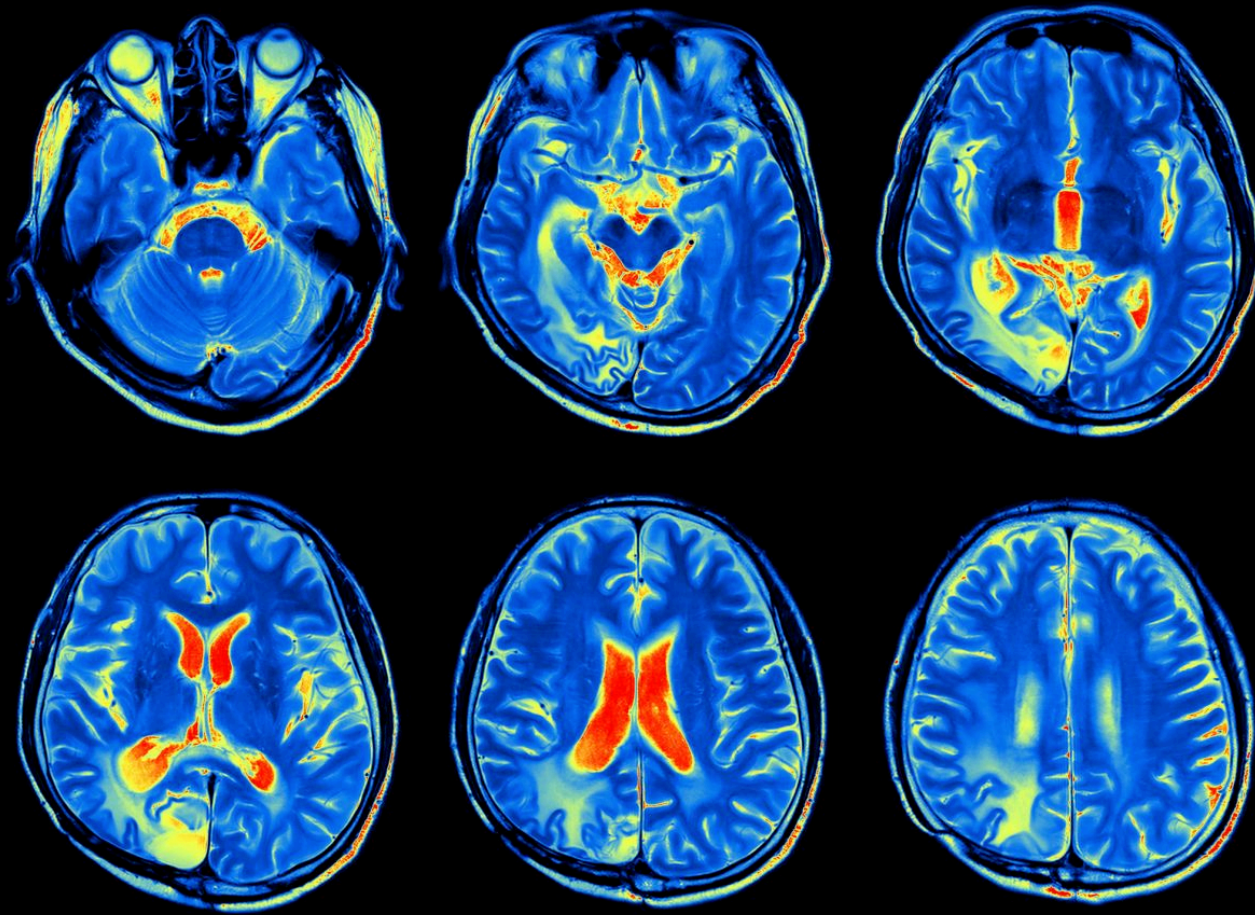


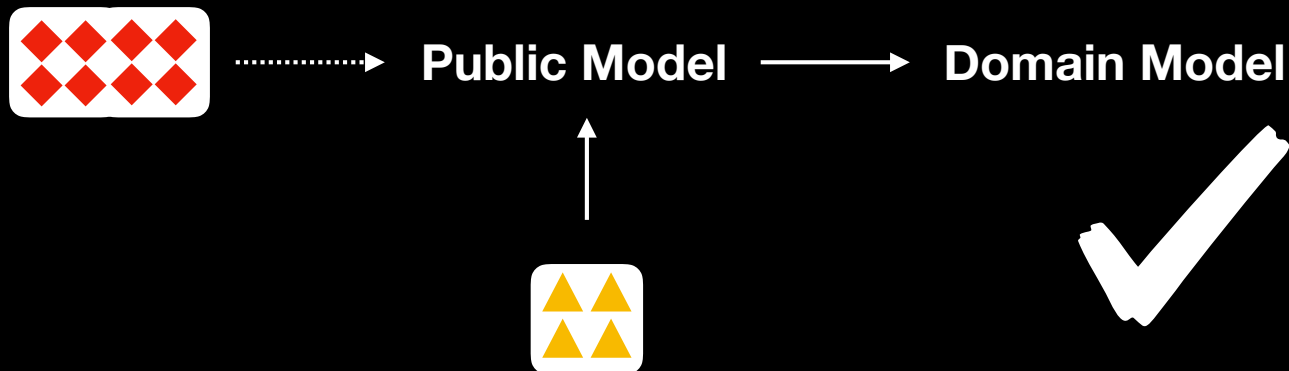
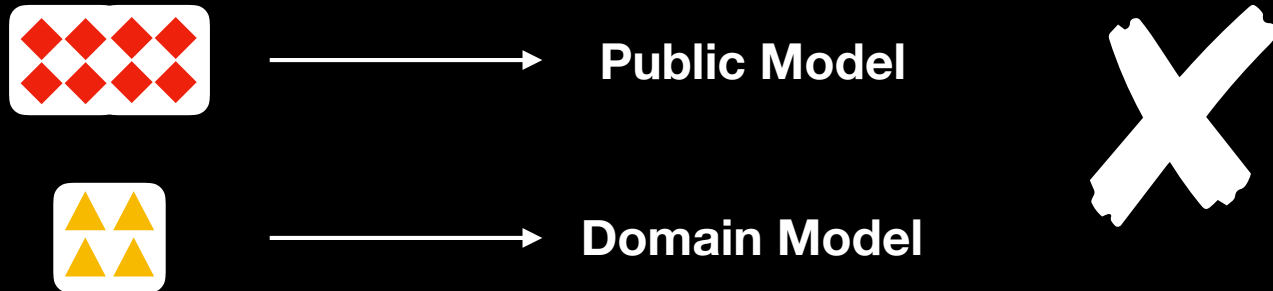
Building Domain Specific Models by Transfer Learning with MXNet and Gluon

Zhi Zhang
Applied Scientist, Amazon AWS

The gap between public and domain specific models



Transfer Learning



Do not start from scratch!

- Even the most talented researchers will get blocked by trivial things.
- Experiences and instincts might be your enemies in certain circumstances.
- Training is time-consuming, initialization and augmentation is randomized, and tons of implementation details need to be taken care of. Debugging deep models is extremely difficult.

GluonCV: A vision toolkit

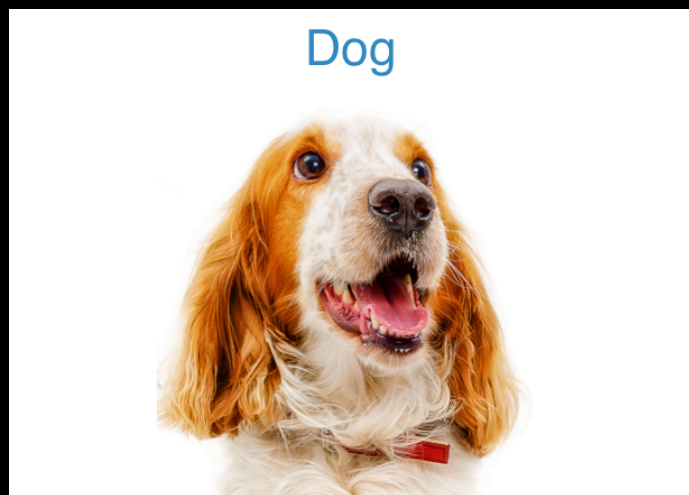
- State-of-the-art models
- Fast development
- Easy deployment
- Official maintenance

One of the best open source choices

- Pre-trained models with great accuracy
- Comprehensive Model Zoo

Great pre-trained models

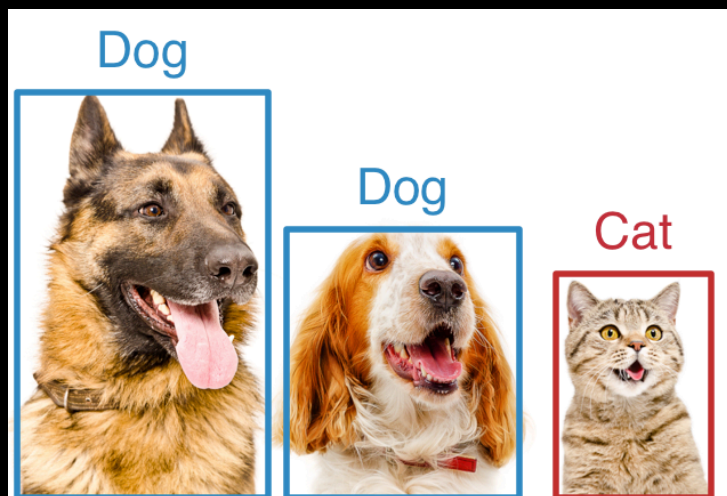
Image Classification



Model	Ours	Reference
ResNet-50	79.2%	76.2%
ResNet-101	80.5%	77.4%
MobileNet	73.3%	70.9%

Great pre-trained models

Object Detection



Model	Ours	Reference
Faster-RCNN	41.3	39.6%
YOLOv3	37.0%	33.0%

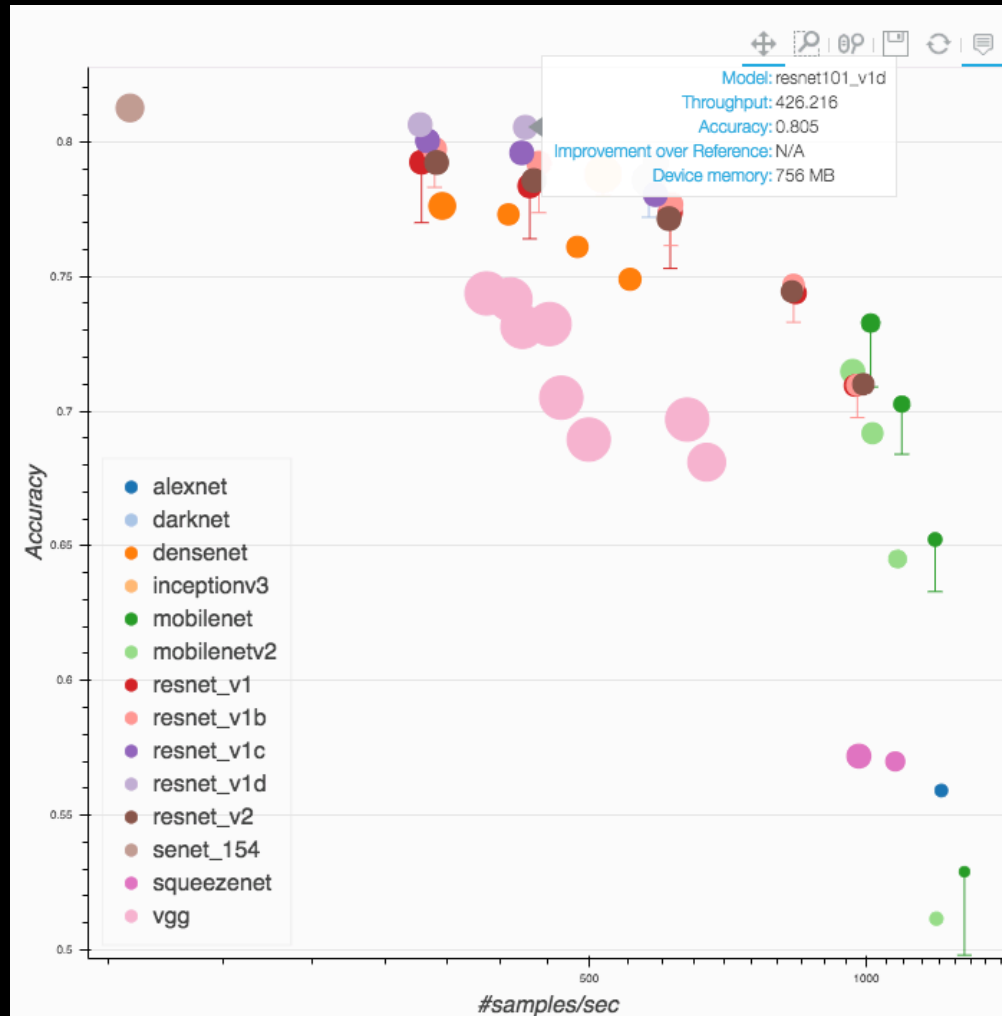
Great pre-trained models

Segmentation



Model	Ours	Reference
Mask-RCNN	33.1%	32.8%
DeepLab-v3	86.7%	85.7%

Comprehensive Model Zoo



Enough talk, show me something!

Demo notebook

Like GluonCV?



<https://github.com/dmlc/gluon-cv>

★ Star

Fork



<https://gluon-cv.mxnet.io>