

**fast.ai**

Making neural nets  
uncool again

# fast.ai stated mission

“

- Research how to apply state of the art deep learning to practical problems quickly and reliably
- Build software to make state of the art deep learning as **easy to use** as possible, whilst remaining **easy to customize** for researchers wanting to explore hypotheses
- Teach courses so that as many people as possible can use the research results and software

”

# Why fast.ai and why now ?

- The fastest way to become proficient with deep learning right now, for FREE
- Course is live → community will be very active → all your questions/problems will get an answer !
- You don't want to keep solving toy problems and doing MOOCs covering the same concepts forever

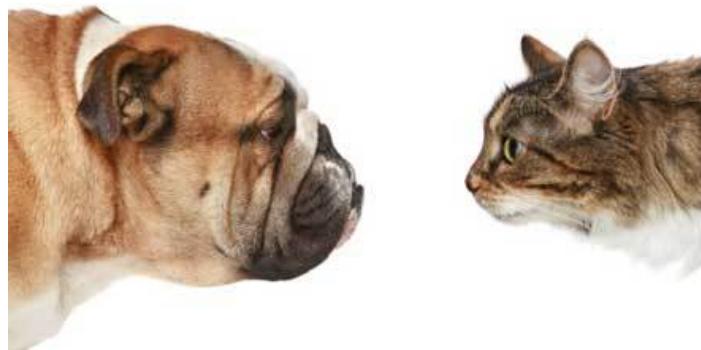
# What to expect ?

- Day 0 : Setup problems !
  - First few days could\* feel like an obstacle race



# What to expect ?

- Day 1 :
  - Solve problems with state of the art architectures and techniques in less than 10 lines of code



```
data = data_from_imagefolder(Path('data/dogscats'),  
    ds_tfms=get_transforms(), tfms=imagenet_norm, size=224)  
learn = ConvLearner(data, tvm.resnet34, metrics=accuracy)  
learn.fit_one_cycle(6)  
learn.unfreeze()  
learn.fit_one_cycle(4, slice(1e-5,3e-4))
```

# What to expect ?

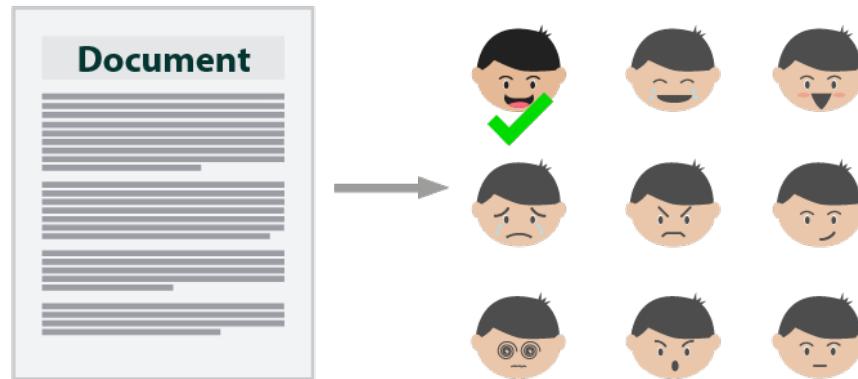
- By the end of the course :
  - You'll be **proficient** with fastai framework & pytorch and **confident** enough to work on your own projects from scratch
  - Learn to read through the filler material and quickly understand the core of (most) deep learning papers

# What to expect ?

- By the end of the course :
  - fastai **consistent interface** for most DL application fields means you can apply your know-how directly to solve :
    - vision
    - text
    - tabular data
    - time series
    - collaborative filtering

# What to expect ?

- By the end of the course :
  - So what does **consistent interface** mean for us ?



```
data = data_from_textcsv(LM_PATH, Tokenizer(), data_func=lm_data)
learn = RNNLearner.language_model(data, drop_mult=0.3,
    pretrained_fnames=['lstm_wt103', 'itos_wt103'])
learn.freeze()
learn.fit_one_cycle(1, 1e-2, moms=(0.8,0.7))
learn.unfreeze()
learn.fit_one_cycle(10, 1e-3, moms=(0.8,0.7), pct_start=0.25)
```

# What to expect ?

- By the end of the course :
  - You'll have built a **portofolio of deep learning projects** already completed during the course
  - Ready for the advanced course
  - They also released a machine learning course !

# What should I do to get there ?



# What should I do to get there ?



# What platform to use ?

- Ideal : you own GPU (9xx or 10xx with at least 4GB VRAM)
- Free cloud based GPUs:
  - Kaggle kernels
  - Google colab + clouderizer
  - Not everything will go smooth, but hey ... it's free :)
- Cheap cloud based GPUs:
  - A lot of options : <https://github.com/binga/cloud-gpus>
  - Many should be quite easy to set-up and use
  - some will support fastai library out of the box

# Study groups

- Where ?
  - TBD – need to know how many will be coming to the study groups
  - Cowork | ISHO hub | poli/vest ?
- When ?
  - at least 2 days after the course
- How ?
  - We code together (maybe in mini-groups)
  - Discuss papers
  - Discuss datasets

# Keep in touch + share knowledge

- forums.fast.ai
- slack channel
- ???

Ideas

Suggestions

Volunteers