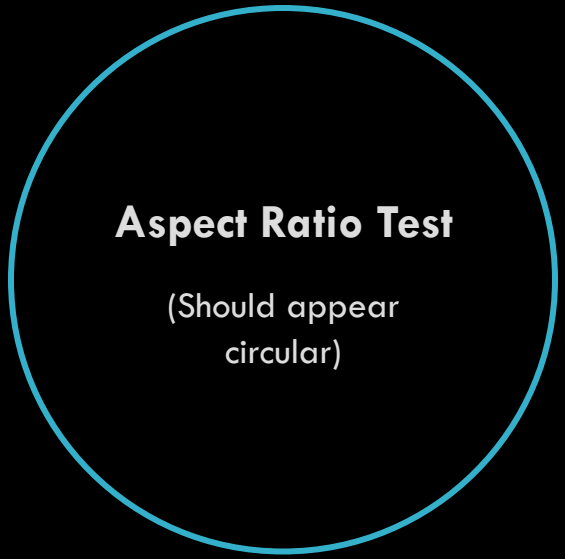
Widescreen Test Pattern (16:9)



4x3

16x9

DOMLG

Downtown **O**maha **M**achine **L**earning **G**roup

Welcome!

- We are meeting over lunch because we don't want to miss dinner with the family.
- Everyone who wants to learn about learning is welcome!
- It's only called "Downtown" because the meetings are downtown.

What we want to do

- (initially) Follow through on the Kaggle material
  - 11 minicourses = 11 months?
- Start up a "study group" on the material
- Learn about each others' cool discoveries
- Give opportunities for folks to present on material to others

What you will need

- A computer
- (Eventually) A GPU
- The ability to run Jupyter notebooks
- No fear of math

Getting GPU Access

- (hard mode) Buy one and set it up yourself
  - Expensive. P4000 = $770 for the card alone
  - Tedious. Installing Nvidia CUDA drivers usually bothersome.
- There's tons of cheap, ready to go cloud options out there for big GPU's

Getting GPU Access

- I use paperspace.
  - P4000 = $0.51 / hr
  - 1500 hours before break even on GPU alone.
- They gave me a code that gets you $15 worth of paperspace cash
  - DOMLG19
  - Write that down

Extra paperspace details

- I use gradient (tier 0)
  - I don't use the interruptible notebooks
  - P4000 is fine, P5000 is better, but probably won't matter for some time.
- For the python mini-course:
  - use Docker on your PC, or Kaggle.

Also, please please don't blame me...

- You're going to forget to shut off your notebook.
  - Gradient 0 (no monthly fee) has auto-shutoff after 12 hours.
  - 12 * $.51 = $6.12 < $8.00, so it's probably cheaper than the $8.00 / mo upgrade as long as you only forget once per month.

Cheapest plan:

- Set up Jupyter Notebook with desired dependencies on your personal computer
  - Code everything there
- Use gradient when you're ready and need the GPU
- This will probably end up costing you like a few bucks per month.

Kaggle's Intro to Python

- Kaggle actually uses free pre-configured notebooks for their hands-on python exercises.
- After doing the exercises on kaggle, you can also try to run them locally.

Exercise 1

- Familiarity with some python basics
- https://www.kaggle.com/rannick/exercise-syntax-variables-and-numbers/edit

Exercises 2, 3, 4, 5, 6, 7

- Familiarity with Python functions
- Booleans and conditionals
- Lists
- Loops and List Comprehensions
- Strings and dictionaries
- External Libraries

My Thoughts

- It seems like a decent intro to the basics of python
- For those familiar with python, use it as an opportunity to get familiar with setting up a docker workspace.

My Thoughts

- I Just used Kaggle's notebooks for the exercises
  - These free notebooks are a little slow to load up
- I am using docker images for my desktop
  - This one. It's got a great readme and has like every python ML library pre-installed:
  - https://github.com/ufoym/deepo

Docker Setup

- Go with docker image for local notebook dev
  - You can set it up the same way as gradient / what you use
  - Things are much more likely to work right away on the cloud

Docker Setup

```
#!/bin/bash
NOTEBOOK_HOME=/Users/nwertzberger/LocalJupyterNotebook
docker run \
    -it -p 8888:8888 \
    -v $NOTEBOOK_HOME/storage:/root/storage \
    -v $NOTEBOOK_HOME/datasets:/root/datasets \
    --ipc=host ufoym/deepo:all-py36-jupyter-cpu \
    jupyter notebook --no-browser \
    --ip=0.0.0.0 --allow-root \
    --NotebookApp.token= \
    --notebook-dir='/root'
```

Jupyter tips

- Run bash command = start with an exclamation point.
- This works:
  - !pip install whatever-package-you-want

Notebook Setup

- Paperspace mounts
  - /storage = shared global mount. Will load in any notebook.
  - /datasets = read-only mount for datasets (I havent used this)

Downloading The courses locally

- https://github.com/Kaggle/learntools
  - I have a bootstrap notebook for doing this.

Now!

- Log into Kaggle and do some lessons
- Log in and set up paperspace
- Work on setting up Docker
- Volunteer to do the next course overview!