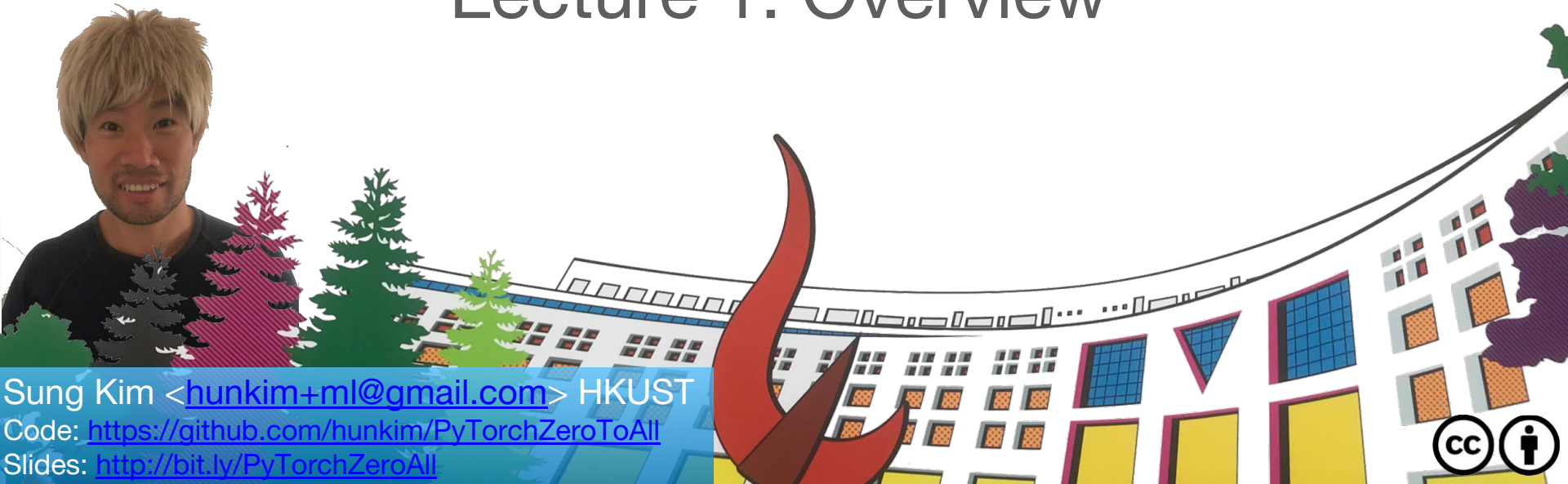
ML/DL for Everyone with PYTORCH

Lecture 1: Overview



Sung Kim <hunkim+ml@gmail.com> HKUST
Code: https://github.com/hunkim/PyTorchZeroToAll
Slides: http://bit.ly/PyTorchZeroAll

Call for Comments

Please feel free to add comments directly on these slides.

Other slides: http://bit.ly/PyTorchZeroAll

Picture from http://www.tssablog.org/archives/3280

for your comments!

- Kyung Mo Kweon
- JooSung Yoon
- jungho choi
- 나로
- Junmo An

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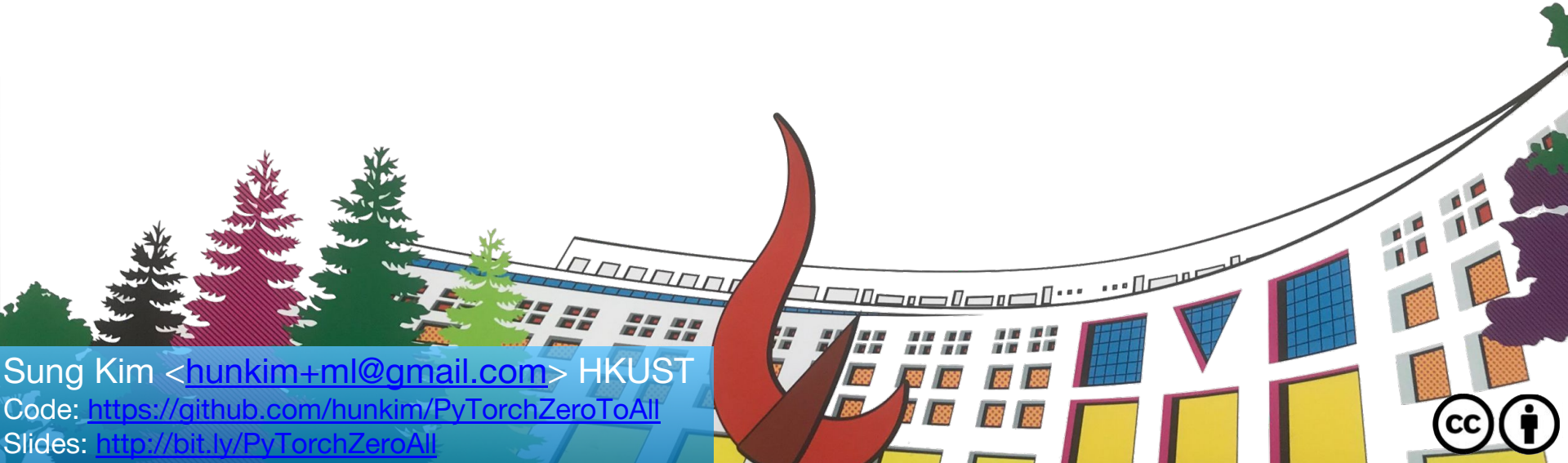
Lecture 1:Overview



Sung Kim <hunkim+ml@gmail.com> HKUST
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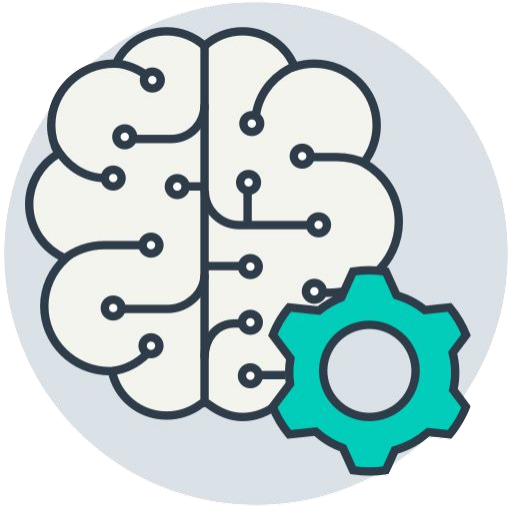
What is ML?

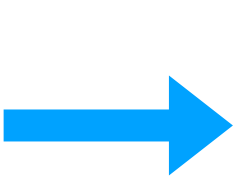


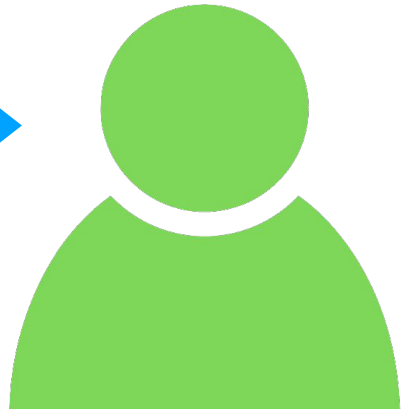
What is Human Intelligence?

What is Human Intelligence?

What to eat for lunch?

Information





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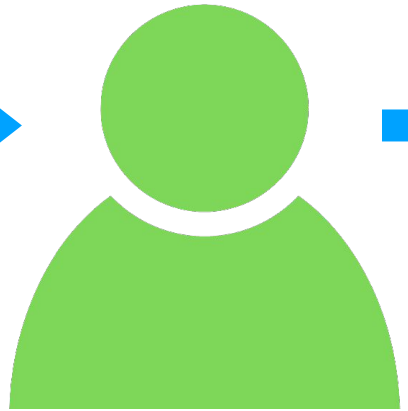
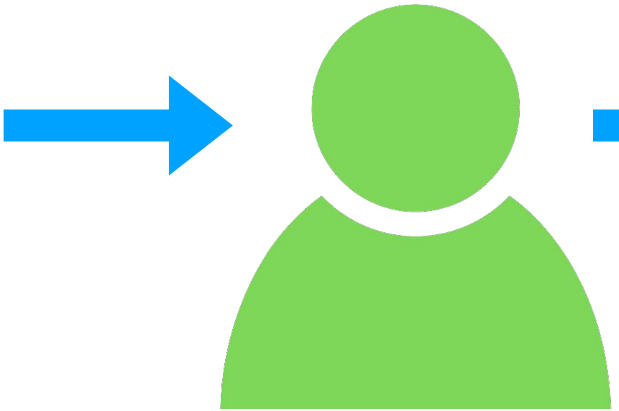


Infer

What is Human Intelligence?

What to dress?

Information

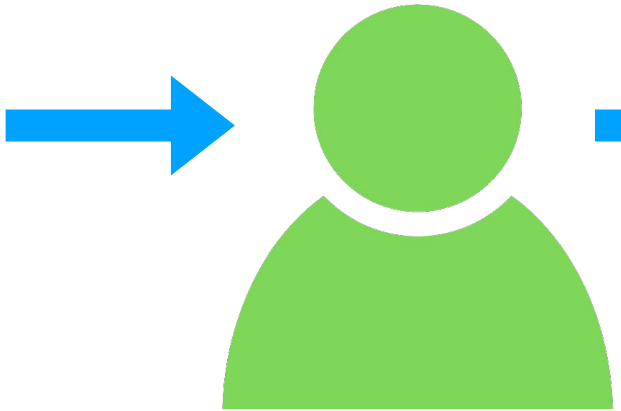


Infer

What is Human Intelligence?

What is this picture?

Image information

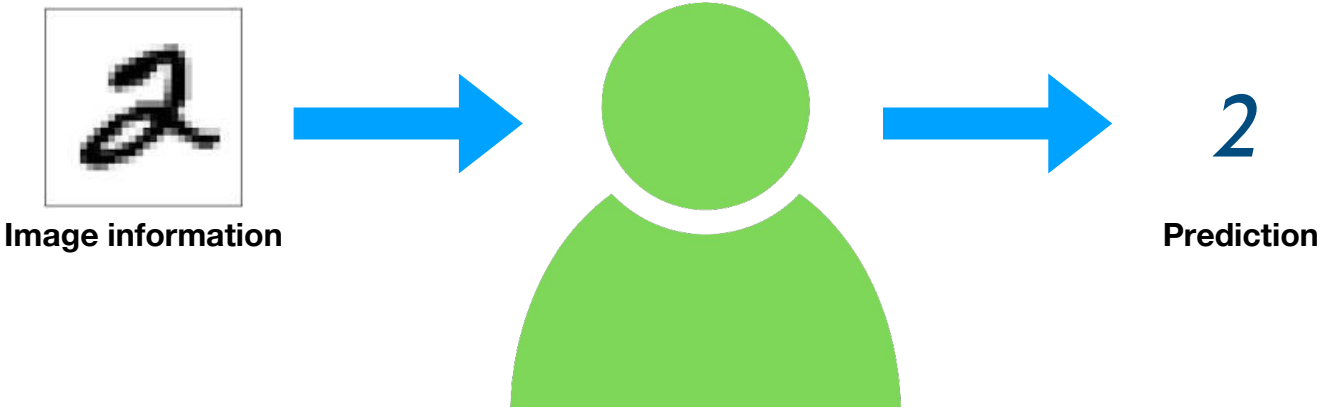


CAT

Prediction

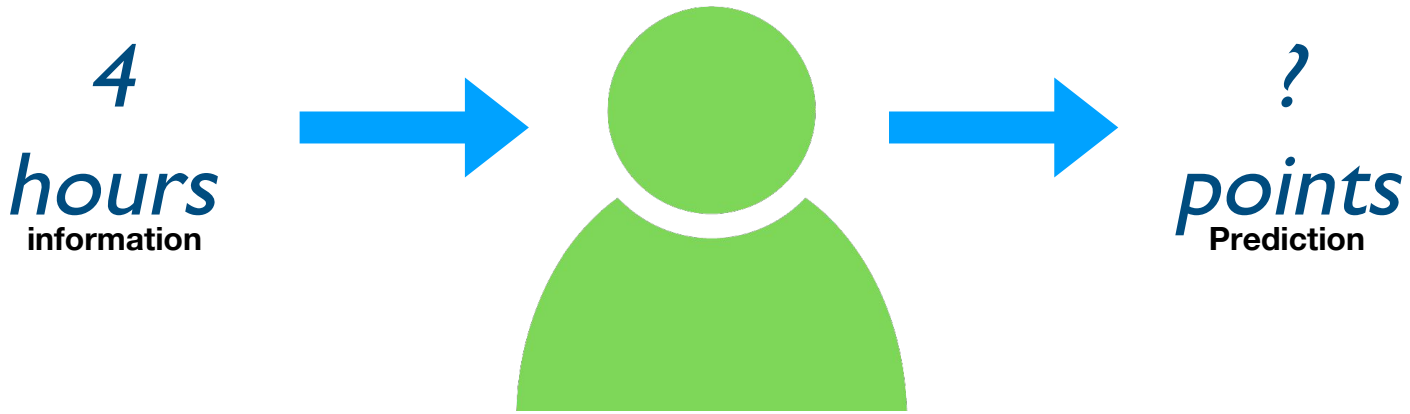
What is Human Intelligence?

What is this number?



What is Human Intelligence?

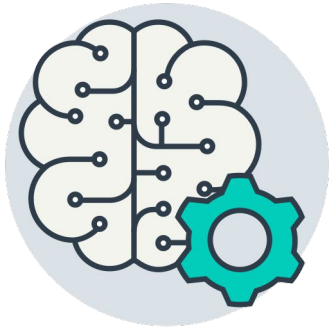
What would be the grade if I study 4 hours?



Machine Learning

What to dress?

Information

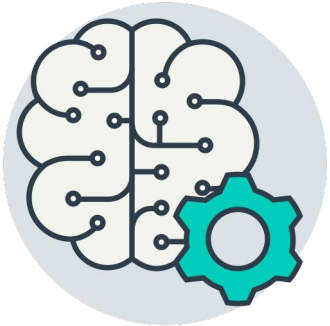


Infer

Machine Learning

What is this picture?

Image information

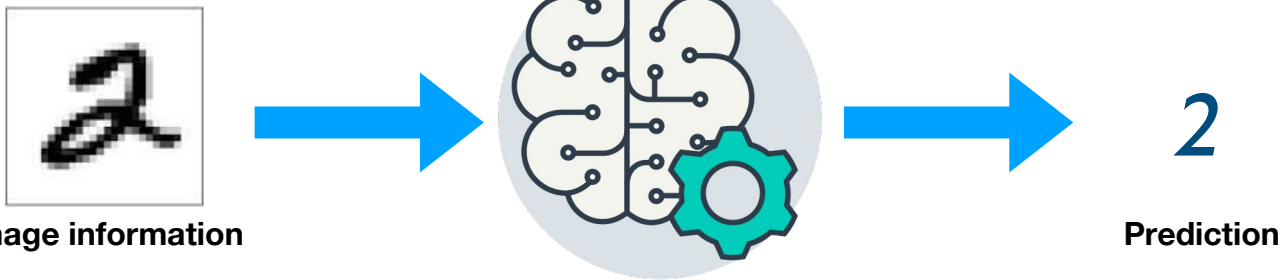


CAT

Prediction

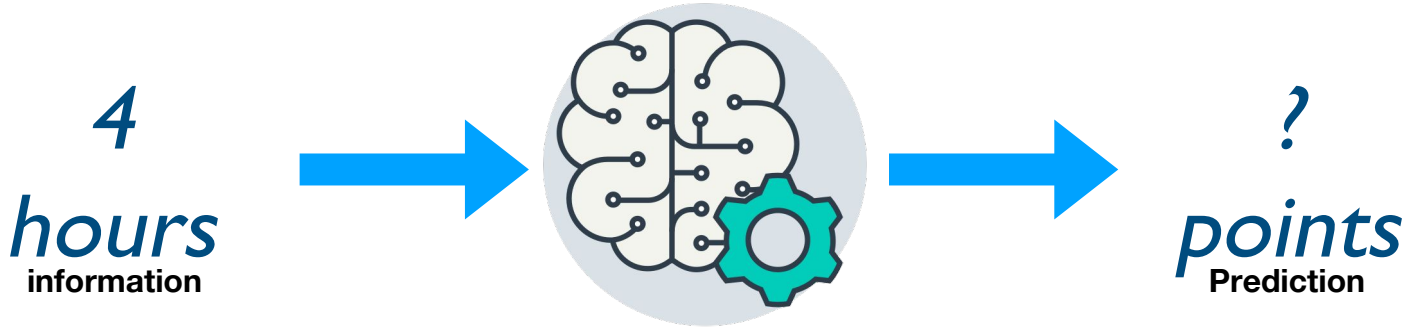
Machine Learning

What is this number?



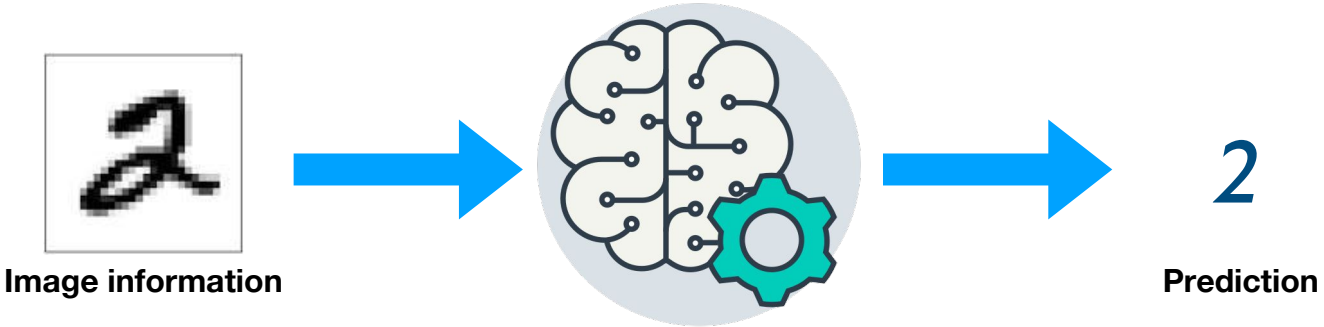
Machine Learning

What would be the grade if I study 4 hours?



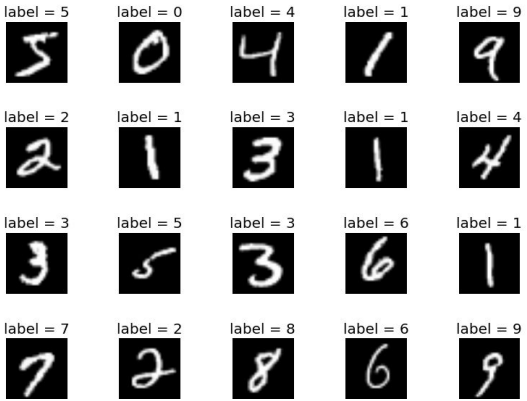
Machine Learning

Machine needs lots of training



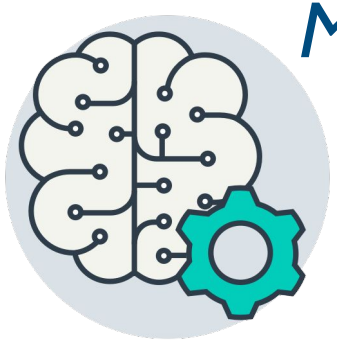
Machine Learning

Machine needs lots of training



Labeled dataset

training



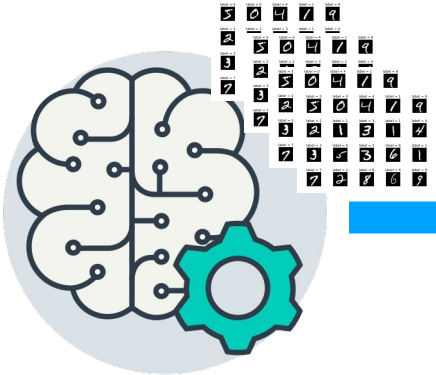
Model

Machine Learning

Predict (test) with trained model

Image information

Test dataset



Trained model

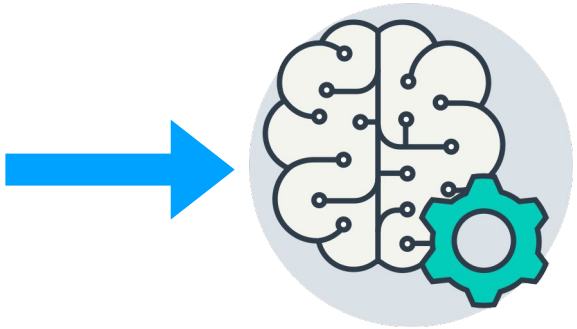
2

Prediction

Machine Learning

What would be the grade if I study 4 hours?

4 hours



? points

Prediction

Hours (x)	Points (y)
1	2
2	4
3	6
4	?

Training dataset

Test dataset

Install PYTORCH

Get Started.

Select your preferences, then run the PyTorch install command.

Please ensure that you are on the latest pip and numpy packages.
Anaconda is our recommended package manager

OS	Linux	**OSX**	
Package Manager	conda	**pip**	Source
Python	2.7	3.5	**3.6**
CUDA	7.5	8.0	**None**

Run this command:

```
pip3 install http://download.pytorch.org/whl/torch-0.2.0.post3-cp36-cp36m-macosx_10_7_x86_64.whl
pip3 install torchvision
# OSX Binaries dont support CUDA, install from source if CUDA is needed
```

Exercise 1-1:
Install PyTorch on your computer!

```
09:40 $ python3
Python 3.6.2 (v3.6.2:5fd33b5926,Jul 16 2017, 20:11:06
[GCC 4.2.1 (Apple Inc. build 5666) (dot 3)] on darwin
Type "help", "copyright", "credits" or "license" for more information.
>>> import torch
>>> print(torch.__version__)
0.2.0_3
>>> # Happy!!
```

Lecture 2: Linear Model