

# Recap

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did anyone actually do the homework?



Essay time!!!!!!!!!!

**Me in the morning  
starting an essay due that  
day**



Using examples, identify and develop an essay containing three case studies that exemplify an argument of how artificial intelligence is culturally constructed or explained..

(2000 words)

Your case studies should triangulate a key argument that explores how narratives, myths and rhetoric develops around AI and how these are challenged or counteracted. misused or exploited, where deviance enters the use case, or where they are used out of their assumed context.

Your case studies may be drawn from commercial, activist, artistic or other fields.

## 400 word introduction.

What is machine learning?

How do machines learn?

Historical overview?

## 400 words per case study.

Work by artists?

Work by ML researchers?

Work by authors?

Work by designers?

Work by governments?

Work by companies?

## 400 words in conclusion.

Based on all you absorbed and conducted, what would your artistic speculation provocation on machine learning be? *(something like that)*

**The snowball activity!**





Let's reviewed  
what  
we learnt.



Introduction to my practice + Man Computer  
Symbiosis

Experiential Futures (*how to explore the future*)

The Anatomy of an AI System (*Intro to Machine  
Learning on the web*)

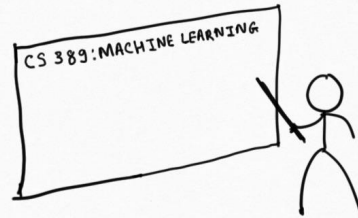
How do we explore a future with AI (*Intro to future  
crafting + image classification*).

The Invisible Mask (*Introduction to Transfer  
Learning with Feature Extraction*)

# MACHINE LEARNING IS HARD!

You can not learn it in a jiffy.

2011



OH WAIT, I CAN USE  
CLASSIFICATION TO PREDICT  
STOCK PRICES. I AM GOING  
TO GET RICH.



2018



I AM NOT SURE IF THIS MODEL  
IS LEARNING SOMETHING OR IF  
IT'S A MONKEY THROWING DARTS.

# How Machine Learning is taught at computer science courses

Start with maths

Read Machine  
learning theory  
books

Start reading  
research papers

Hard code  
algorithms from  
scratch

Build DNN  
architecture by  
hand

Look at open  
source frameworks

Start using  
frameworks to  
build solutions

Start solving  
complex problems



# How Alex & others teach creative coding projects with machine learning.

Look up basic examples

Look up open source frameworks & libraries

Write simple code

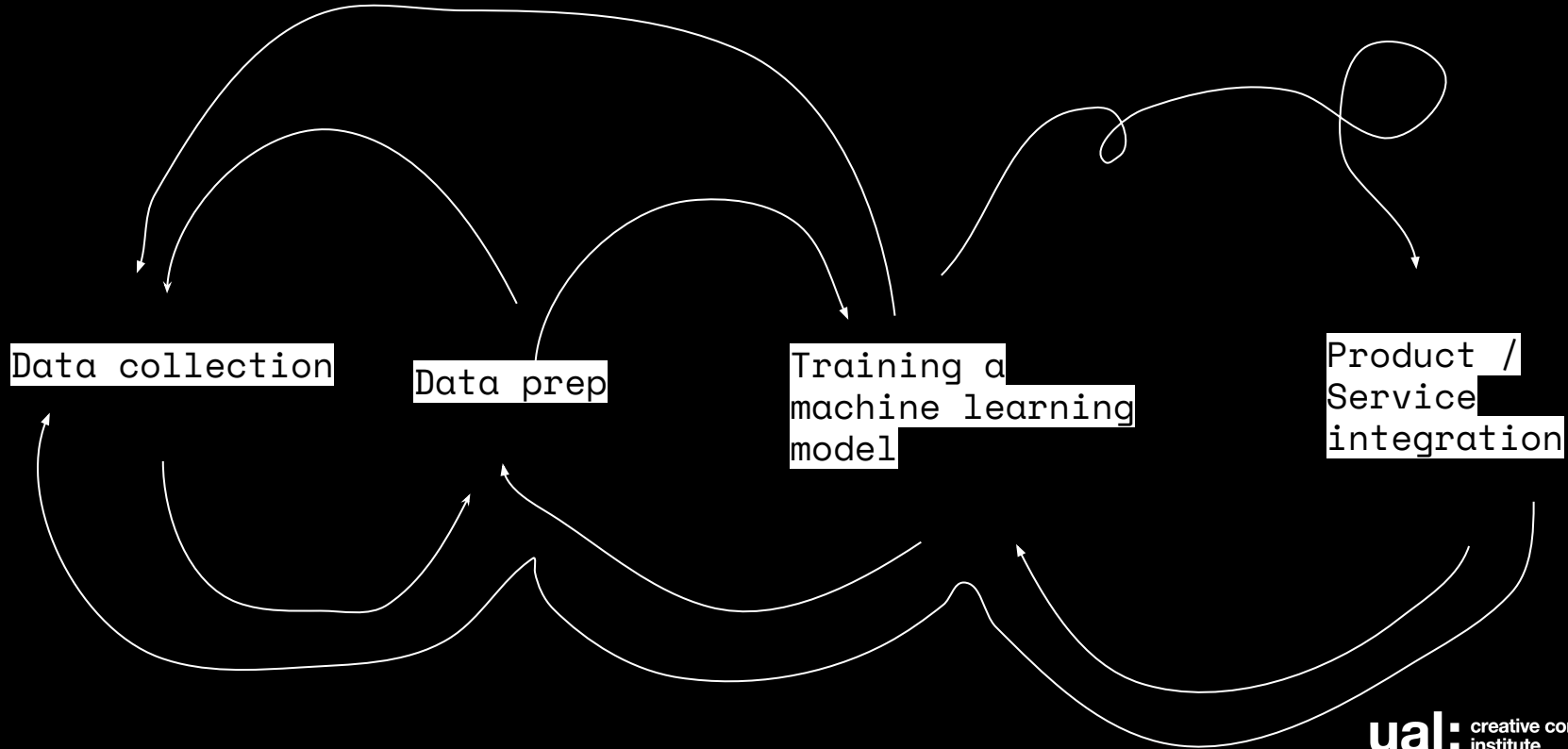
Understand basic concepts and write more code...

Increase complexity of problems you solve

Starting building intuition

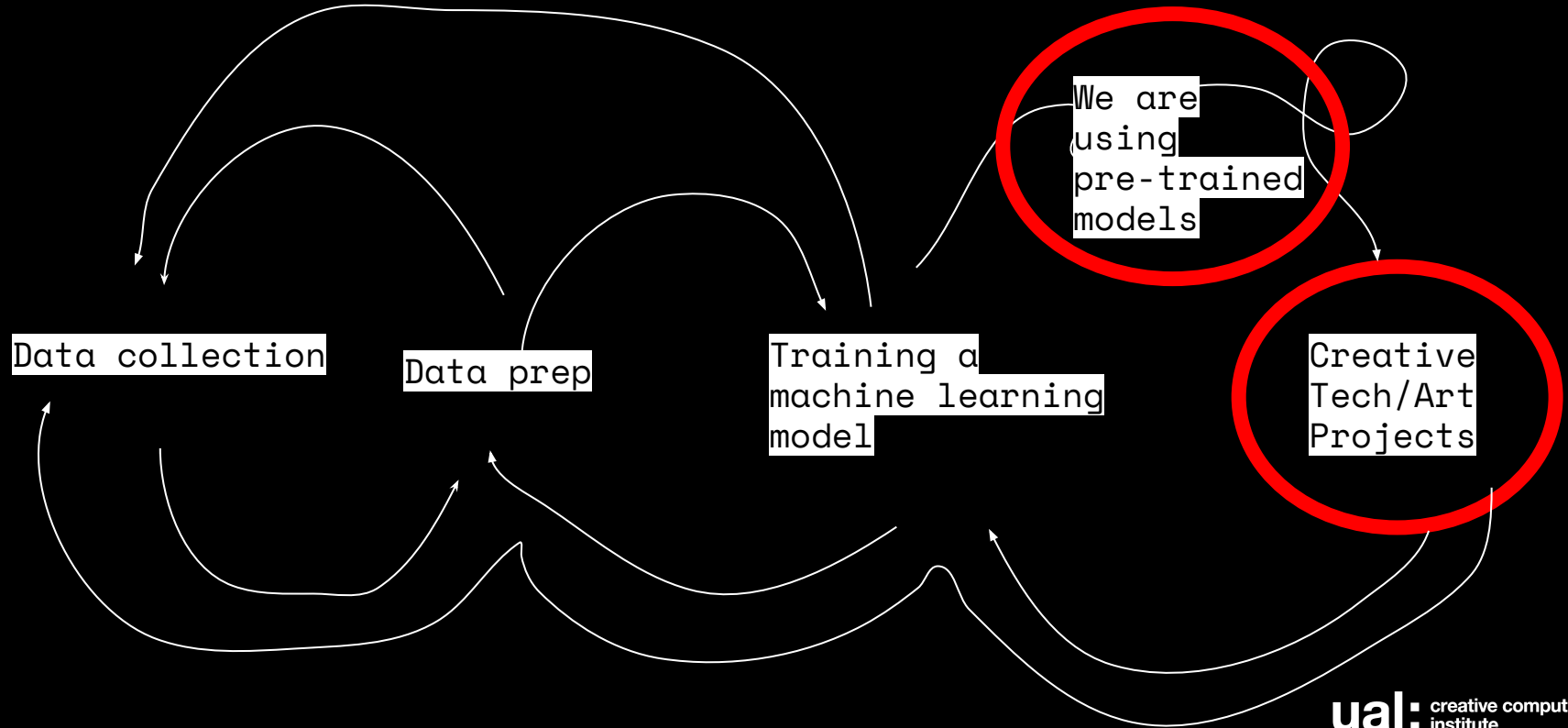
Start doing your own stuff

# How the machine learning process works





# How the machine learning process works



Complex things  
that I want to  
introduce in  
the most simple  
way possible.



Do it yourself neural network (*collect and train a model*).

Convolutional Neural Networks (**CNN**)

Recurrent Neural Networks (**RNN**)

Generative Adversarial Networks (**GAN**)

Build a bot???!!!! (**Not complex**)!!!

Ethical Implications of Machine Learning

Postmodern alternatives narratives on the future.

[Getting Started](#)[Reference](#)[Community](#)[About](#)

# Friendly Machine Learning for the Web

A neighborly approach to creating and exploring artificial intelligence in the browser.

m15.js

# image

Image  
Classification

Pose Estimation

Style Transfer

Object Detection

Image Segmentation

Image-to-Image  
Translation

Image Generation

Sketch Generation

# sound

Pitch Detection

Sound  
Classification

# text

Text Generation

Word Vectorization

Sentiment Analysis

# helpers

Feature Extraction

K-nearest neighbor

Classification


Use cases for ml5.js  
+ artistic  
experiences

# ml5.js in 3 friendly steps

**Step 1:** Load your ml5 function

**Step 2:** Apply your ml5 function - e.g. to an image, video, or text

**Step 3:** Do something with the results

 TensorFlow

InstallLearnAPIResourcesCommunityWhy TensorFlow

SearchLanguageGitHubSign in

OverviewTutorialsGuideModelsDemosAPI

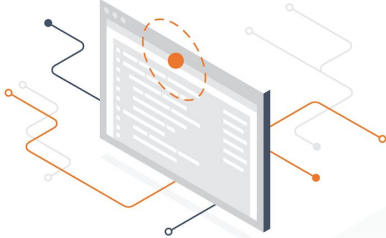
## TensorFlow.js is a library for developing and training ML models in JavaScript, and deploying in browser or on Node.js

[See tutorials](#)[See the guide](#)[See demos](#)


Tutorials show you how to use TensorFlow.js with complete, end-to-end examples.

Guides explain the concepts and components of TensorFlow.js.

Live demos and examples run in your browser using TensorFlow.js.




### How it works




#### Run existing models

Use off-the-shelf JavaScript models or convert Python TensorFlow models to run in the browser or under Node.js.



#### Retrain existing models

Retrain pre-existing ML models using your own data.



#### Develop ML with JavaScript

Build and train models directly in JavaScript using flexible and intuitive APIs.

# Tensorflow.js

ual: creative computing  
institute

TensorFlow.js is an open-source library you can use to define, train, and run machine learning models entirely in the browser, using Javascript and a high-level layers API.



## what you can do with it

- 1: You can import an existing, pre-trained model.
- 2: You can retrain an imported model.
- 3: Author models directly in browser.



## The Invisible Mask

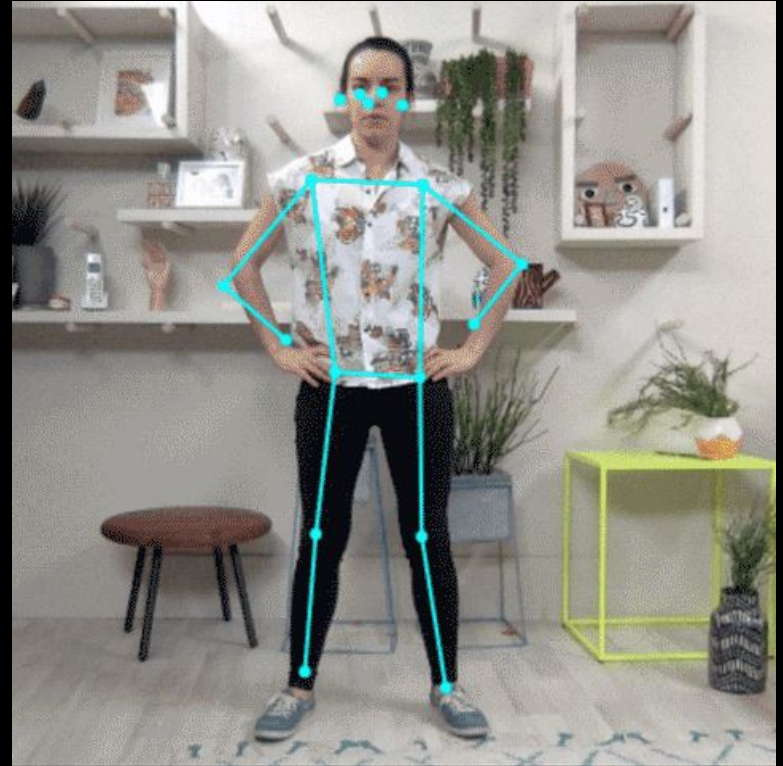
COMUZI

It was built using arduino, p5.js and ML5.js (feature extractor using transfer learning).

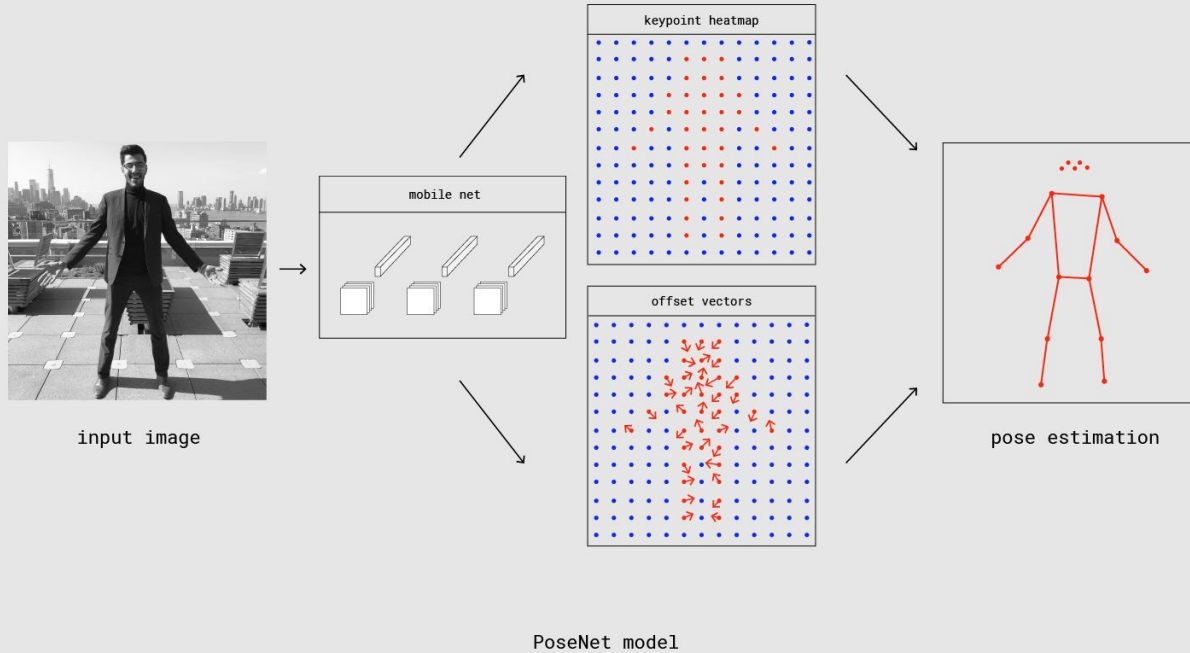
Let's explore some code!

Or depending on time it's a  
break?

# Back to Posenet!!!



## Single-Pose Detection Algorithm



How posenet works by Tensorflow.



Id	Part
0	nose
1	leftEye
2	rightEye
3	leftEar
4	rightEar
5	leftShoulder
6	rightShoulder
7	leftElbow
8	rightElbow
9	leftWrist
10	rightWrist
11	leftHip
12	rightHip
13	leftKnee
14	rightKnee
15	leftAnkle
16	rightAnkle

**Slide here for a  
Break**

Create our own collage creator (*we'll make the first steps*).

[http://bit.ly/posenet\\_cci](http://bit.ly/posenet_cci)





# Homework

**Make a guide for  
someone from a  
marginalized group on  
how to use a invisible  
mask.**

**Facial recognition software is proving extremely deadly for marginalized communities**

LGBT advocates raise alarm over 'facial recognition' technology

**Facial Recognition Software Regularly Misgenders Trans People**

Why facial recognition's racial bias problem is so hard to crack

**Use of facial recognition tech 'dangerously irresponsible'**

Hong Kong Protesters Take Down 'Smart Lamps' Amid Growing Fears of Chinese Surveillance Tech

**40 Major Music Festivals Have Pledged Not to Use Facial Recognition Technology**

Worldbuilding is the process of constructing an imaginary world, sometimes associated with a whole fictional universe.

The resulting world may be called a constructed world.

# How to use the Invisible Mask!

<b>Setting</b> The theme or kind of future (e.g. The future of Peckham, South London).		<b>Scenario</b> The story about the future of the setting. (The future of music festivals happening in Peckham)		<b>Who is your Hidden Figure?</b> A hidden figure is someone you don't see often in leading roles of stories.	
<b>Context</b> What situation is your hidden figure in? Where are they? How are they feeling? Where do they find the invisible mask?	<b>Problem</b> What triggers them to use the invisible Mask?	<b>Interaction</b> How do they use the mask? How will they feel when using it?	<b>Change</b> How do they feel after they've used the masks? What effect did the mask have?	<b>Advice</b> What is your advice to your hidden figure on how to use the invisible Mask?	

**Class done.  
You are free!**