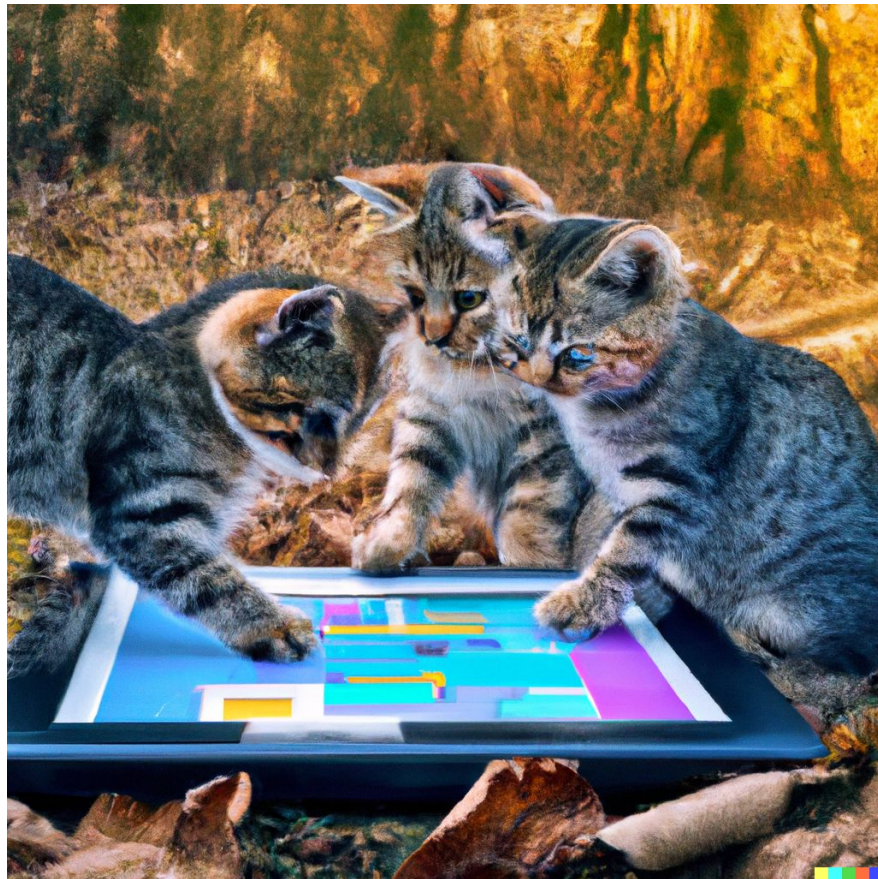


FALL 2023
DSE 12700
VISUAL ANALYTICS

Professor
Madeline Blount
she/her

Week 13
MACHINE LEARNING VIZ



Dall-E2, tabby kittens creating colorful digital charts in a forest, photorealistic style

🧹 today:

- Discuss ML/AI visualizations - brief tour + overview!
- @ least 1 hour: group project work session
- “shareback” @ the end of class, each group give update



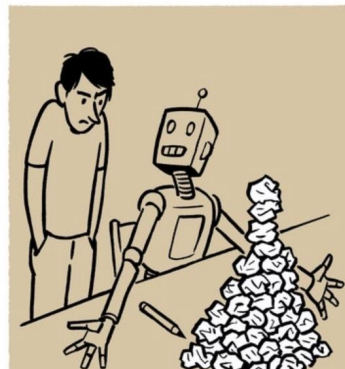
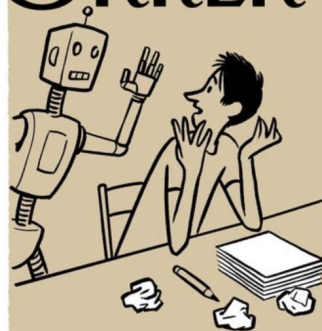
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VISUALIZATION + ML:



a crucial step ***throughout*** the process of machine learning



highly iterative - continuous checks, and visualizations can help with this

VISUALIZATION + ML:

“Understanding the data” (EDA) steps:

<https://projector.tensorflow.org/>

Embedding Projector, Tensorflow (Google)

Pre-trained models



dimensionality (itself a visualization!)

VISUALIZATION + ML:

“How ML is working” & “How ML WORKS”

<https://poloclub.github.io/ganlab/>

GANs, generative adversarial networks

<https://distill.pub/2016/misread-tsne/>

t-SNE caveats

<http://playground.tensorflow.org/>

Tensorflow playground, neural network

VISUALIZATION + ML:

"A visual introduction to machine learning"

<http://www.r2d3.us/visual-intro-to-machine-learning-part-1/>

(look @ code, inspect browser)

Tony Chu, designer + programmer

<https://www.youtube.com/watch?v=Z4tB6gyxHJA>

(@ 11:43)

VISUALIZATION + ML:

Working with TensorFlow, library + platform ...

(Python, also pure JS!)

Using visualization to understand what's going on in
image classification models (VGG16, pre-trained)