



FACILITATE-AI

GUIDELINES FOR FACILITATING THE LEARNING OF ARTIFICIAL INTELLIGENCE
BY SCHOOL STUDENTS OF GRADES 7-12

PART A: Module 4: **Practicum: Implementation by trainees**

Guidelines for facilitating the learning of Artificial Intelligence (AI) by School Students of Grades 7-12

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IASA
IPDP

*C2 Training Course
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Group: IPDP-IASA

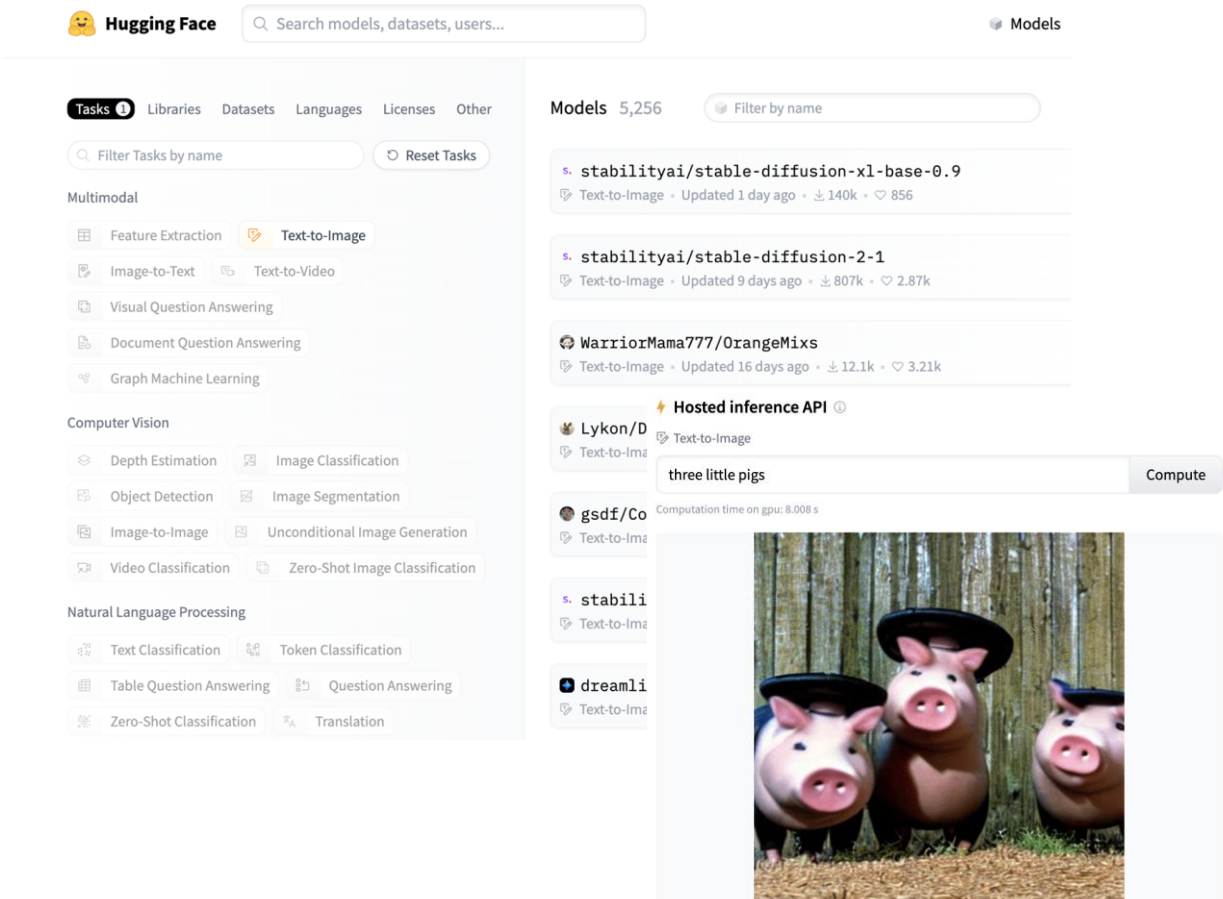
- Pixels from prompts: understanding image generation
- Diabetes Auto Diagnosis
- Presentations with 3D assets

Activity 1 – Pixels from prompts

- **Title:** Pixels from prompts: understanding image generation
- **Link:** <https://huggingface.co/models>
- **Goals:** Understand how text-to-image generative models work and how they can be biased towards the images that are more prevalent online
- **Description:** Have the students use any of the available text-to-image generative models. Suggest prompts that may be biased vs. prompts that are less likely (e.g. three little pigs vs. three little dogs). Discuss with the students how generative models work, and how they “simply” learn the typical statistical distribution of the pixels for some concept and then generate it with slight variations, and how this is prone to bias and other problems when the concepts is associated with very repetitive images. Depending on the prompt it is possible to explore problems such as bias, the generation (and use by the model) of copyrighted material, or models that generate text without being explicitly programmed for it
 - Optional: use Google reverse image search to find similar images (possibly used as sources)

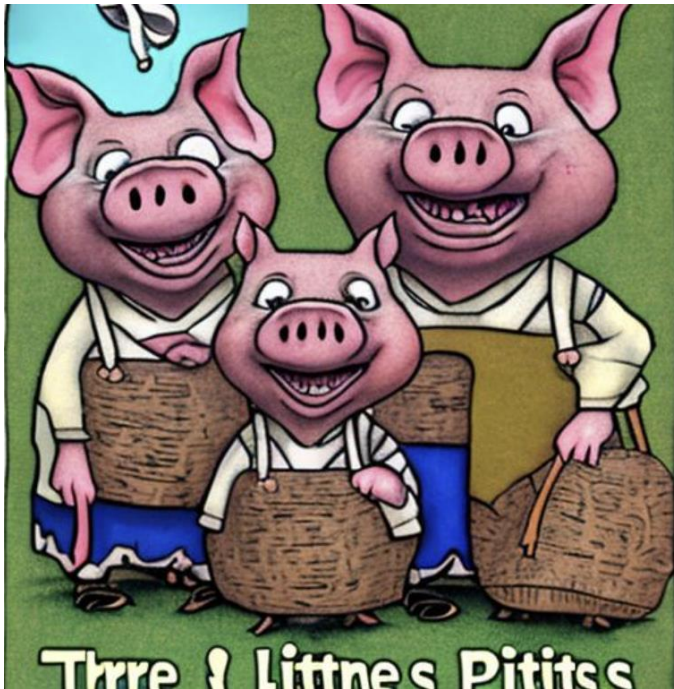
Activity 1

- Go to <https://huggingface.co/models>
 - Hugging face is a ML tool and repository of datasets that can be experimented online for free
- Select Text-to-Image category and then one of the available models
 - stabilityai/stable-diffusion-2-1



The screenshot shows the Hugging Face website interface. At the top, there is a search bar for models, datasets, and users. Below the search bar, there are navigation tabs for Tasks, Libraries, Datasets, Languages, Licenses, and Other. The main content area is divided into two columns. The left column lists various model categories such as Multimodal, Computer Vision, and Natural Language Processing. The right column displays a list of models, including stabilityai/stable-diffusion-xl-base-0.9, stabilityai/stable-diffusion-2-1, and WarriorMama777/OrangeMixs. A 'Hosted inference API' section is visible, showing a model named 'three little pigs' with a 'Compute' button. Below this, there is a preview of the generated image showing three piggy banks in a forest setting.

Three Little Pigs



“three little pigs”, by Stable Diffusion v1.5 vs Openjourney

Correspondências visuais

36,00 €* Little Pigs

pixers.com.pt
Quadros em Tela the three little pigs and th...
Em stock

baixaki.com.br
Download The Three Little Pigs | Baixaki

1,90 €

fnac.pt
Els Tres Porquets
Em stock

slideshare.net
Three little pigs

Once upon a time there lived three little pigs.

slideshare.net
The Three Little Pigs Story

uol.com.br
Especialista ensina às crianças como...

colorir.com
Desenho de Os três porquinhos 5 pintado ...

A PIG IN A POKE

amazon.com.br
Pig in a Poke | Amazon.com.br

colorir.com
Desenho de Os três porquinhos 5 pintado ...

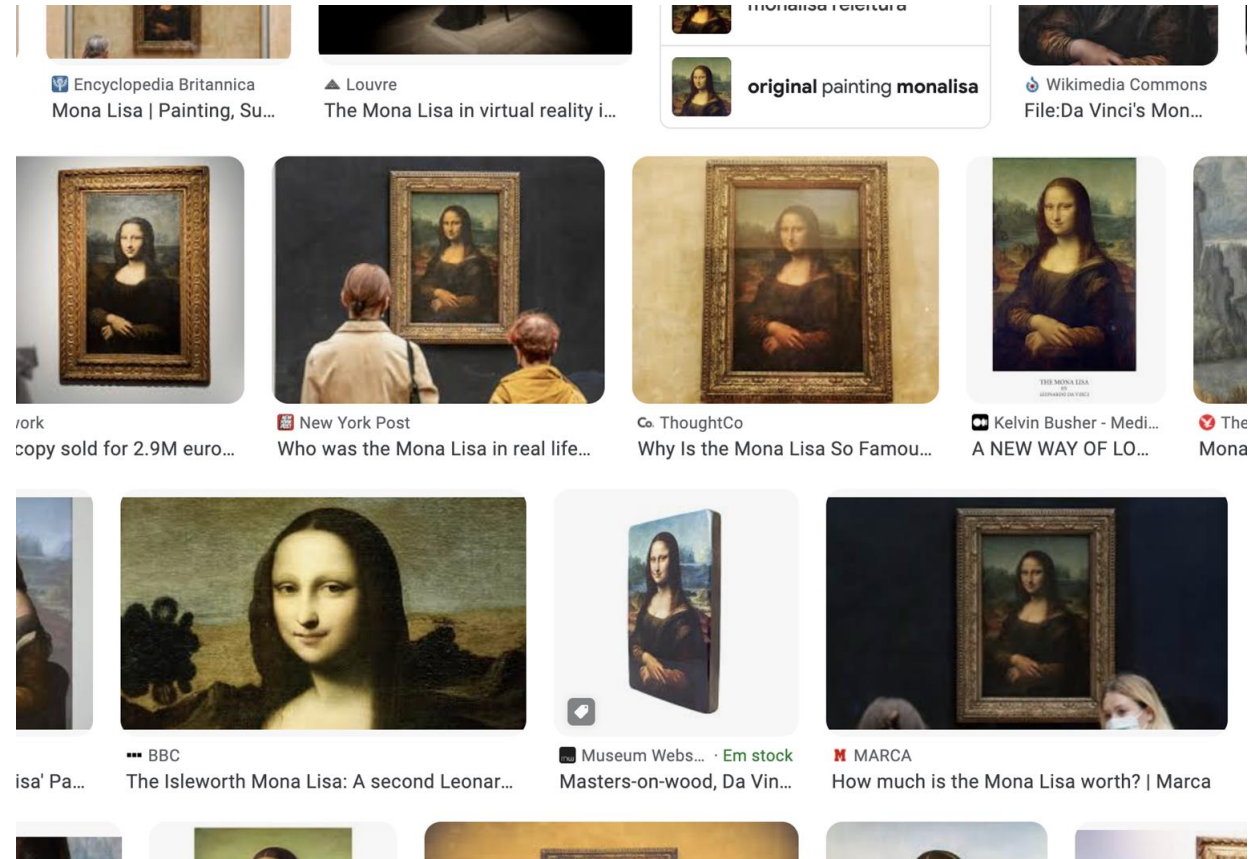
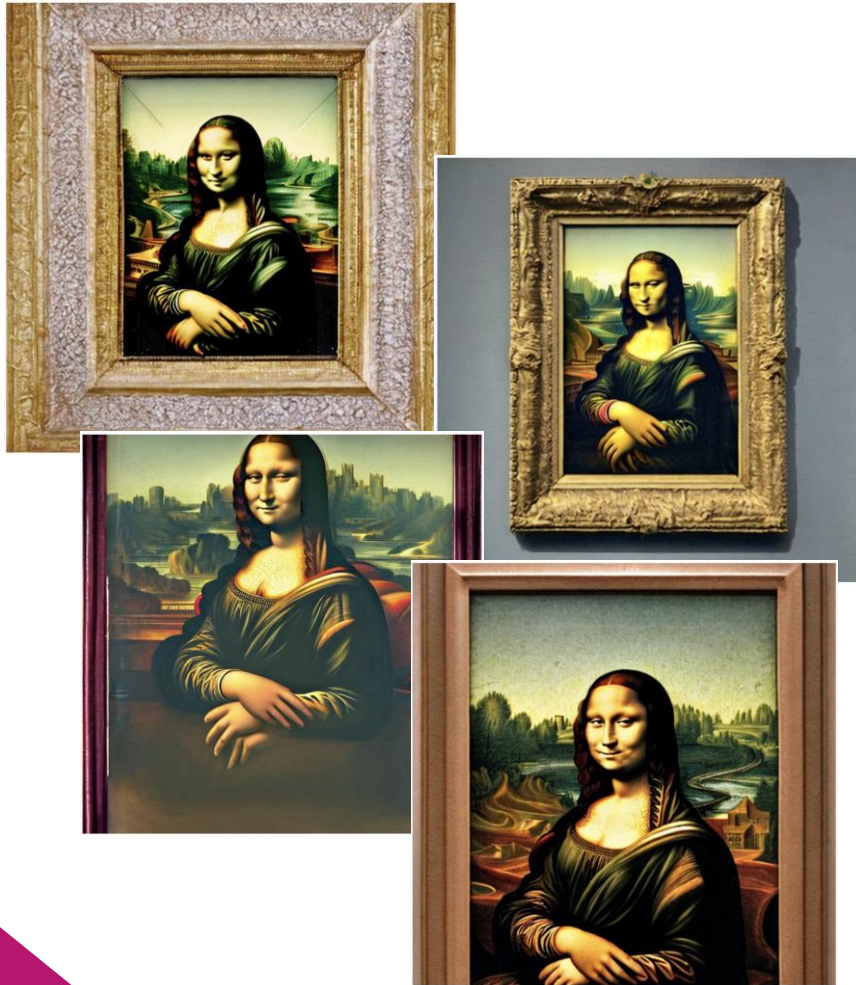
LOS TRES CERDITOS

scribd.com
Es T T 510 Los Tres Cerditos Tarjetas de...

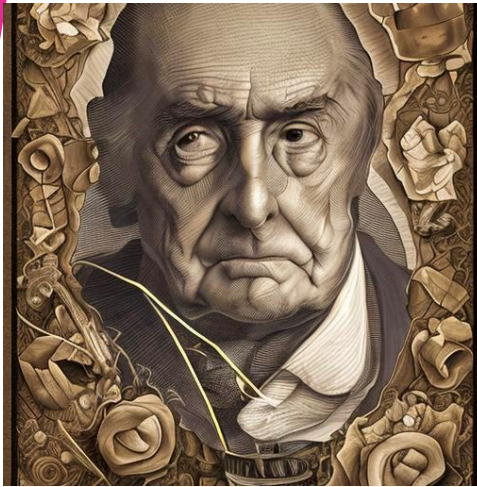
youtube.com
Inglês com HISTÓRIAS INFANTIS - THE THREE...

researchgate.net
-Exemplo de uma prancha da Prova sobr...

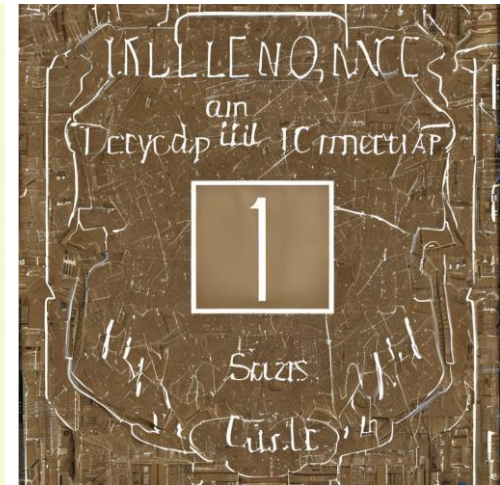
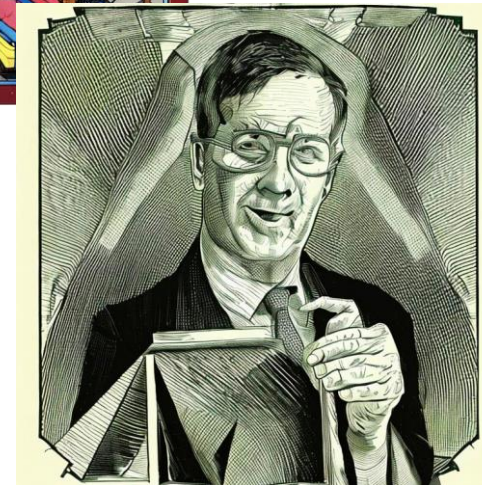
Mona Lisa



Intelligence




"Intelligence", by Stable Diffusion v1.5 vs
Openjourney




"Intelligence", by Stable Diffusion v2
Model Card

Use of copyrighted sources

 **@amoebadesign**
@amoebadesign · [Follow](#)


Got sent some moody Russian ruDall-E GAN images last week from my dev piotr, that had shutterstock logos generated in them, oh how we laughed....now looks like the real Dall-E is doing the same...




3:25 PM · Jun 8, 2022

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 **A Wojcicki**
@pretendsmarts · [Follow](#)

Several results from the bigger GAN models, like StyleGAN are even able to recreate the watermark on images from certain websites, namely [@Shutterstock](#) It looks like hardly anyone doing ML really cares about privacy or copyright at the moment



8:28 AM · Mar 16, 2019

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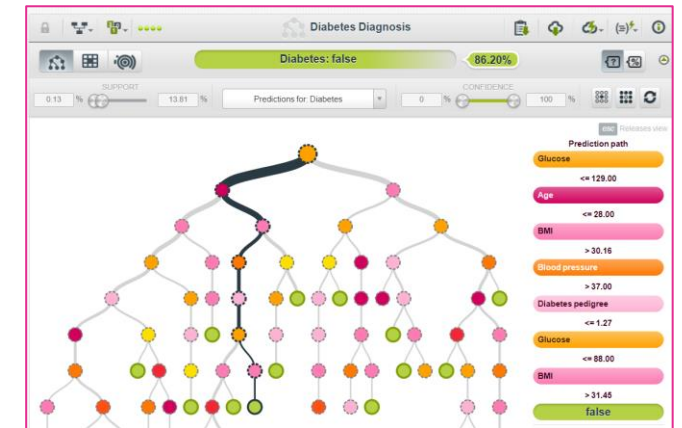
Activity 2 – Diabetes Auto-Diagnosis

- Link

- <https://bigml.com/>

- Description

- Use the platform to import a dataset regarding diabetes.
- Create a decision tree model that predict a diabetes diagnosis.
- Explore the decision tree and decision process
- Query the model with the interactive form
- Explore other models such as regression and state the differences in decision making and querying

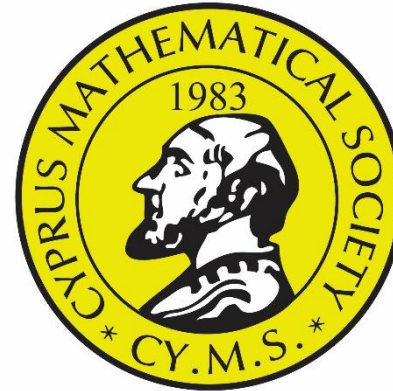


Activity 3 - Presentations with 3D assets

- Link
 - <https://alicevision.org/#meshroom>
- Description
 - Choose an interesting inanimate object to present to others
 - Use a camera to take photos about a in different angles, heights and distance
 - Use the software to import the images and explore algorithm from computer vision.
 - Review all images and take out images out of focus and with bad quality
 - Create and export the model
 - Import to the powerpoint presentation
 - If possible, print a physical copy using a 3D printer



FACILITATE - AI Partners



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