28th International Conference on Multimedia in Physics Teaching and Learning (MPTL'28)

Space Science and AI

MTA-ELTE DIGITALLY SUPPORTED PHYSICS EDUCATION RESEARCH GROUP
http://fiztanar.elte.hu/mta-elte-fdt-kutatocsoport

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Some free physics education platforms using artificial intelligence at different levels

1. **EaseMate AI Physics Solver**

   Ez az eszköz lehetővé teszi fizikai problémák gyors megoldását, magyarázatokkal és részletes lépésről lépésre történő útmutatással.

2. **HIX Tutor – Physics AI**

   A HIX Tutor AI segítségével szöveges kérdéseket tehetsz fel, vagy akár képernyőképeket is feltölthetsz fizikai problémák megoldásához.

3. **StudyMonkey AI Physics Tutor**

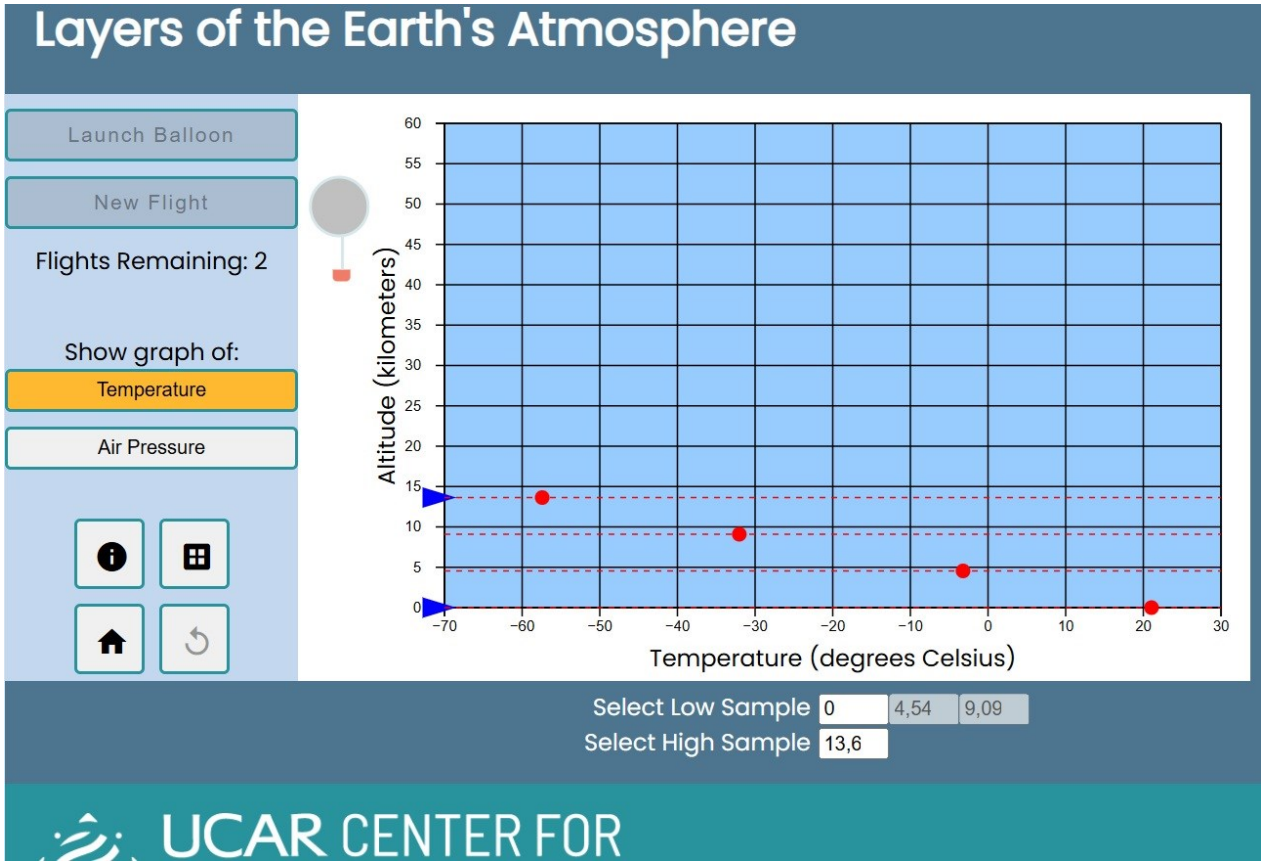
   Ez az eszköz 24/7 elérhető, és személyre szabott, lépésről lépésre történő segítséget nyújt bármilyen fizikai házi feladathoz.

4. **Math-GPT Physics Solver**

   A Math-GPT AI elemzi a problémát, azonosítja a fizikai fogalmakat, és részletes megoldásokat ad, segítve a megértést.

Virtual Lab of UCAR

(University Corporation for Atmospheric Research)



https://scied.ucar.edu/interactive/virtual-ballooning

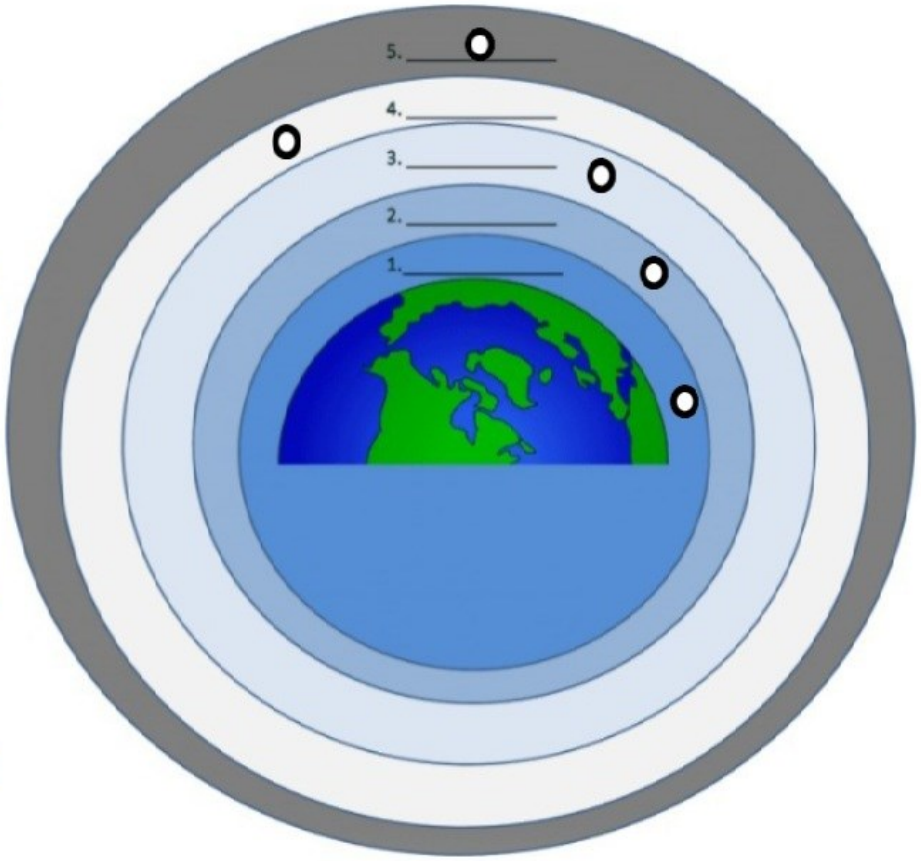
Stratosphere

Troposphere

Thermosphere

Exosphere

Mesosphere



Wordwall

Switch template

Labelled diagram

Anagram

Flash cards

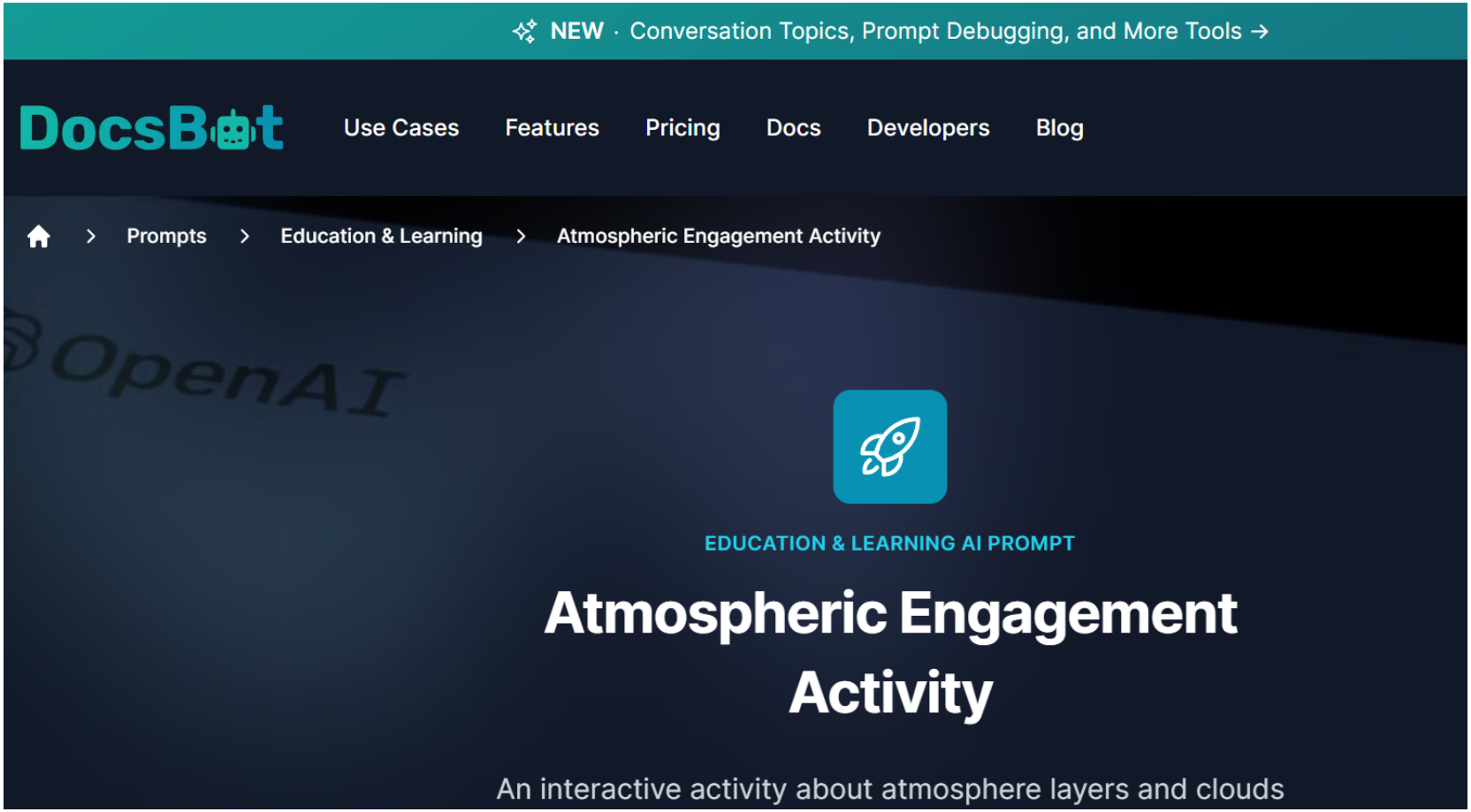
Matching pairs

Open the box

Show all

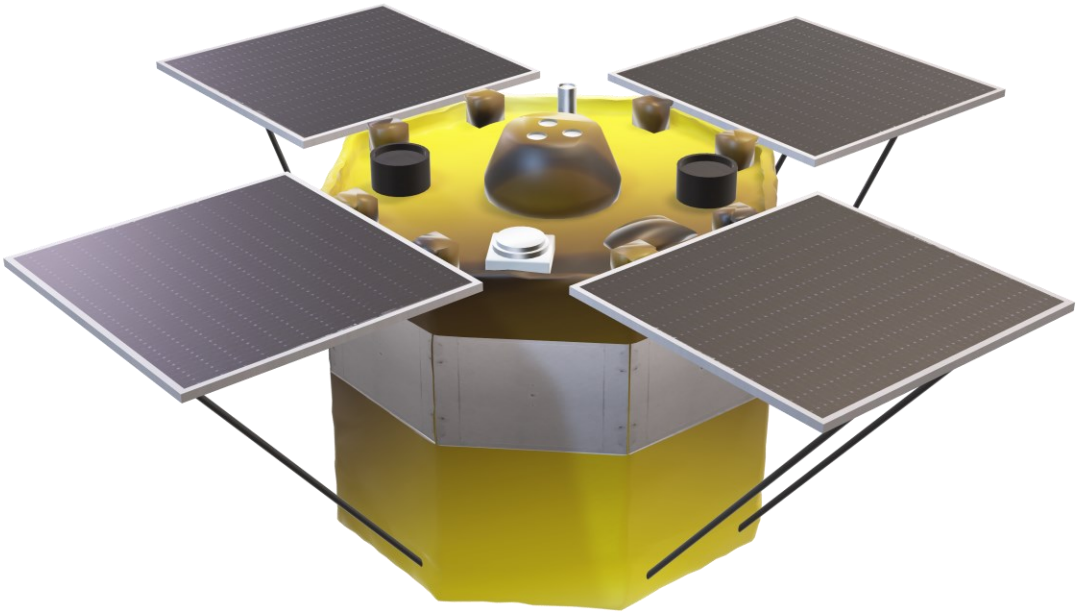
https://wordwall.net/resource/8628646/science/layers-of-the-atmosphere

Lesson plan on the topic of atmosphere



https://docsbot.ai/prompts/education/atmospheric-engagement-activity

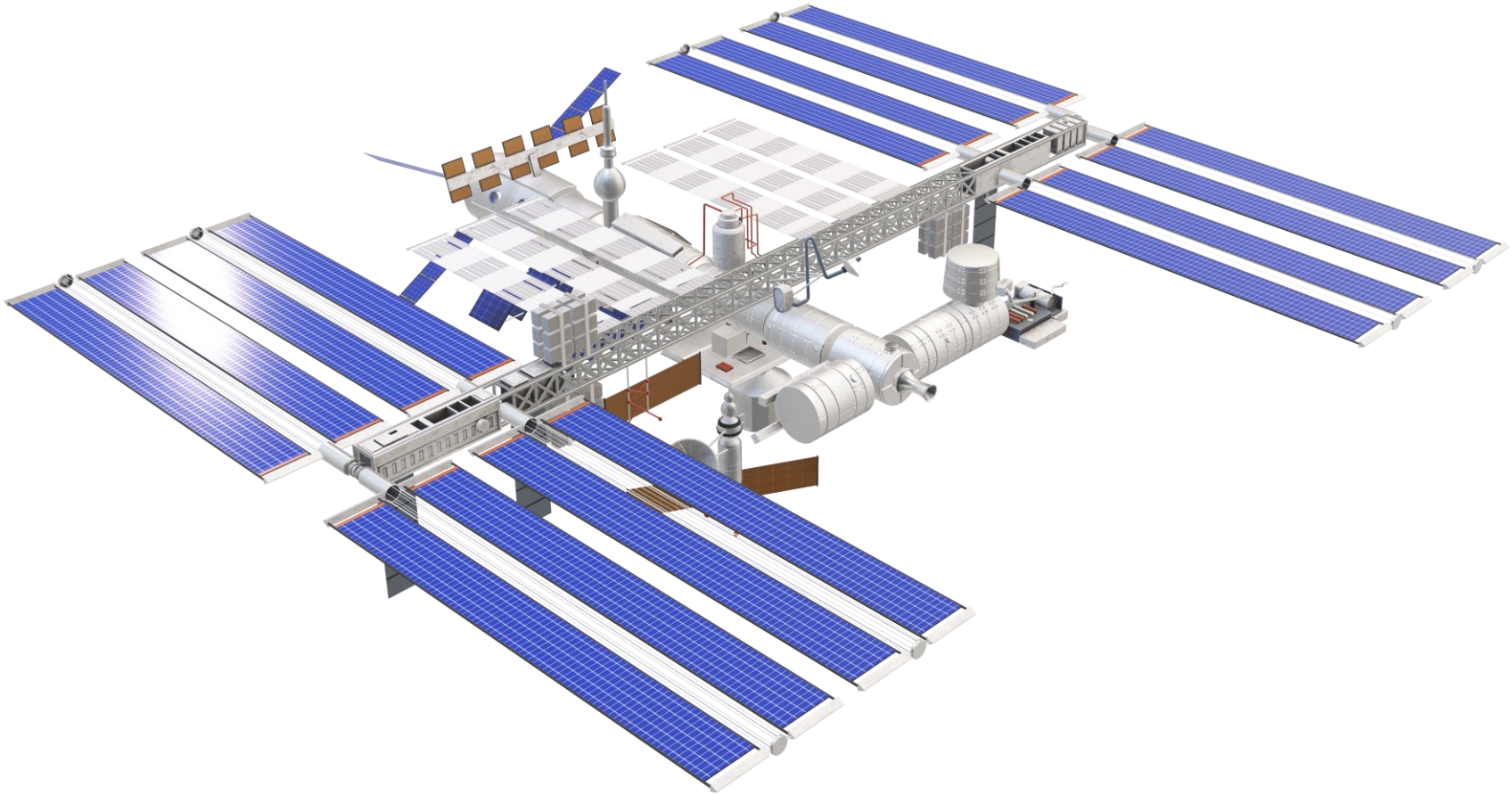
3D model from the NASA website



ACRIMSAT studies the sun's energy output.

https://science.nasa.gov/3d-resources/active-cavity-irradiance-monitor-satellite-acrimsat-a/

3D Model from the PPT gallery



International Space Station - Interior

3D Model

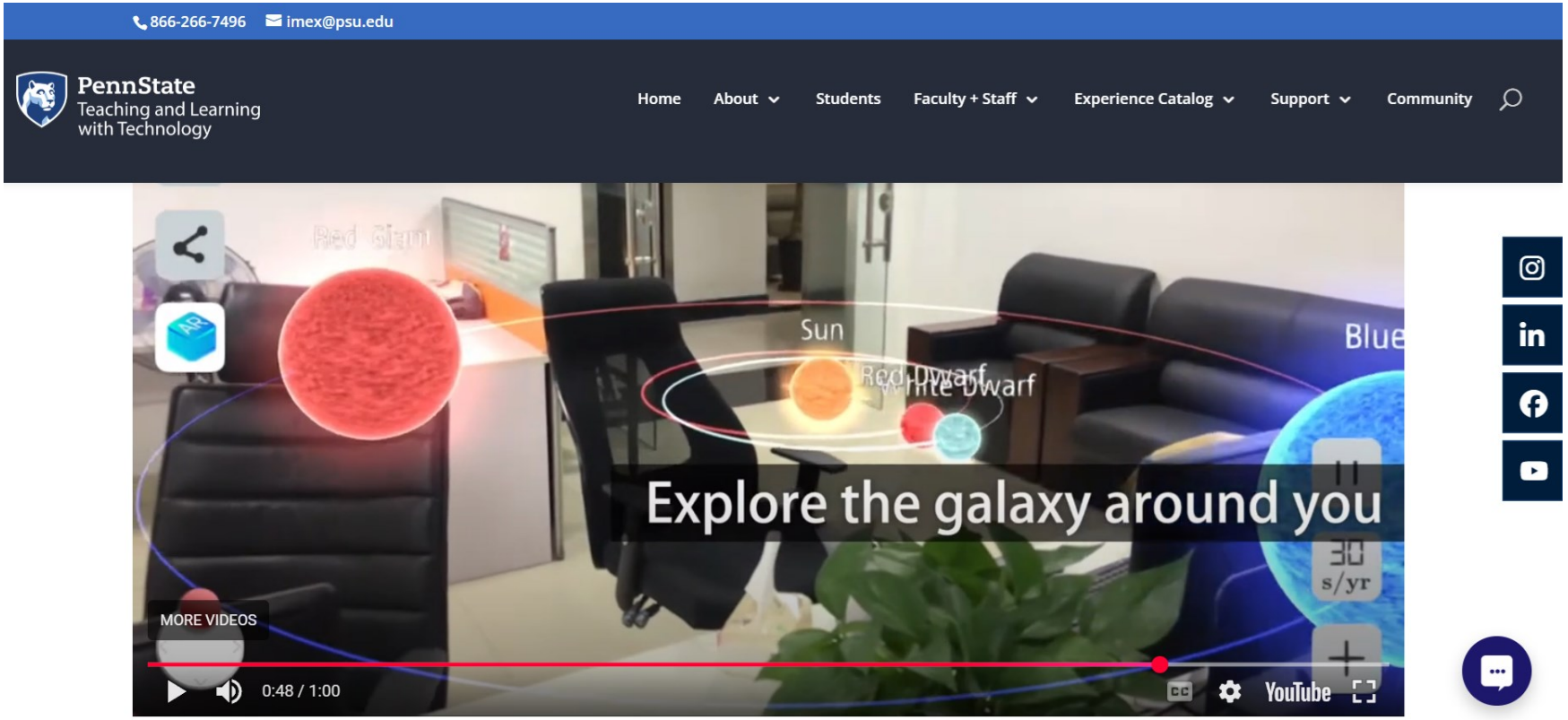
https://sketchfab.com/3d-models/international-space-station-interior-7753b422ca8046b4ae783d44b2bd6cfc

VR and AI in education
thought-provoking

VR and AI in Education: The Future of Learning | Kristen Tamm | TEDxTartuED

https://www.youtube.com/watch?v=XGkWh4v1hCE

AR in Space Science



https://imex.psu.edu/project/physics-lab-ar/

Software

Adobe Premiere

Final Cut Pro

Adobe Aero

Scaniverse

Hardware

360° Camera

Headset

Process

Storyboarding

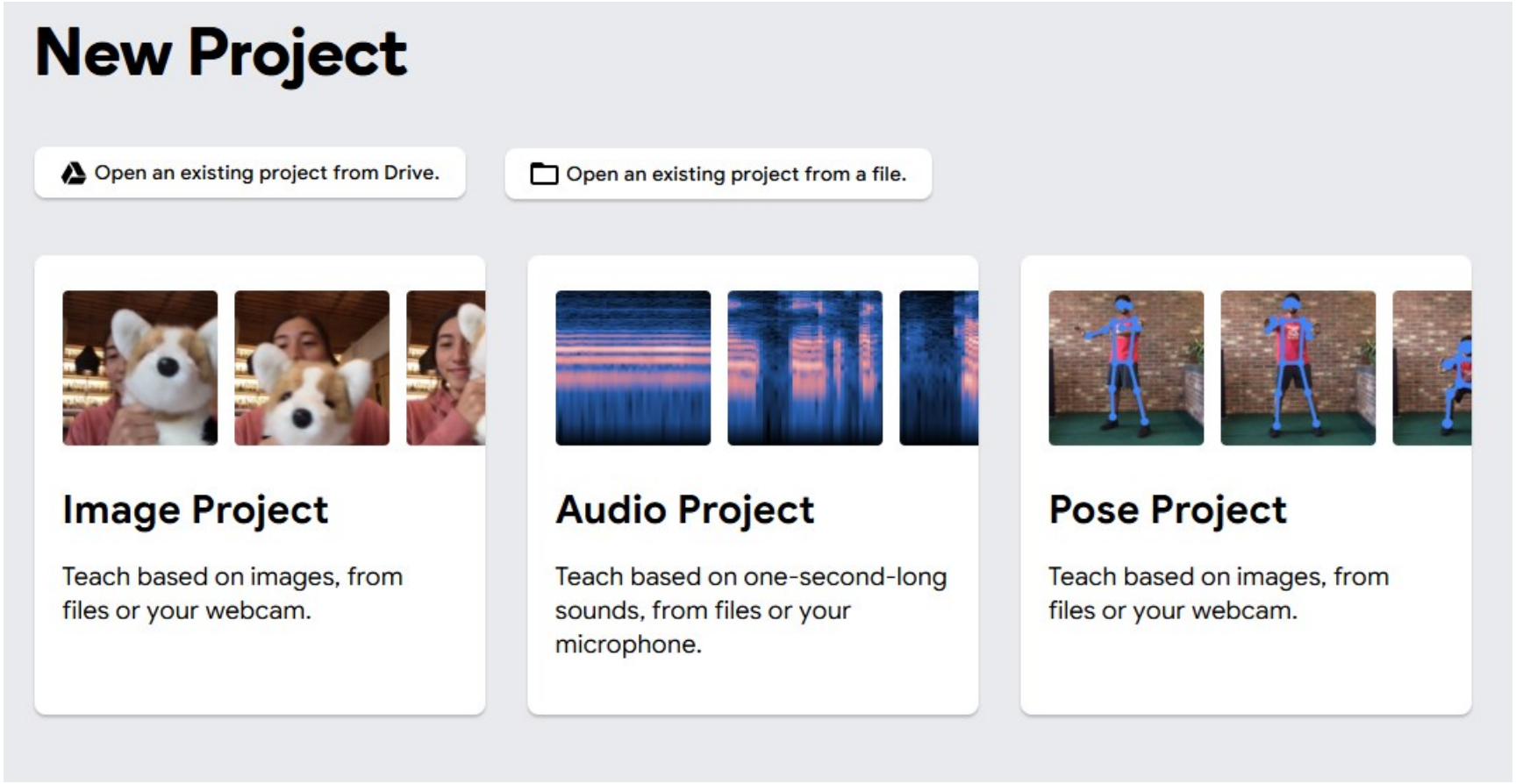
Platform

ThingLink

Spatial

https://imex.psu.edu/support/tutorials/

Teachable machine



https://teachablemachine.withgoogle.com/

How does it work?

1. Collect data

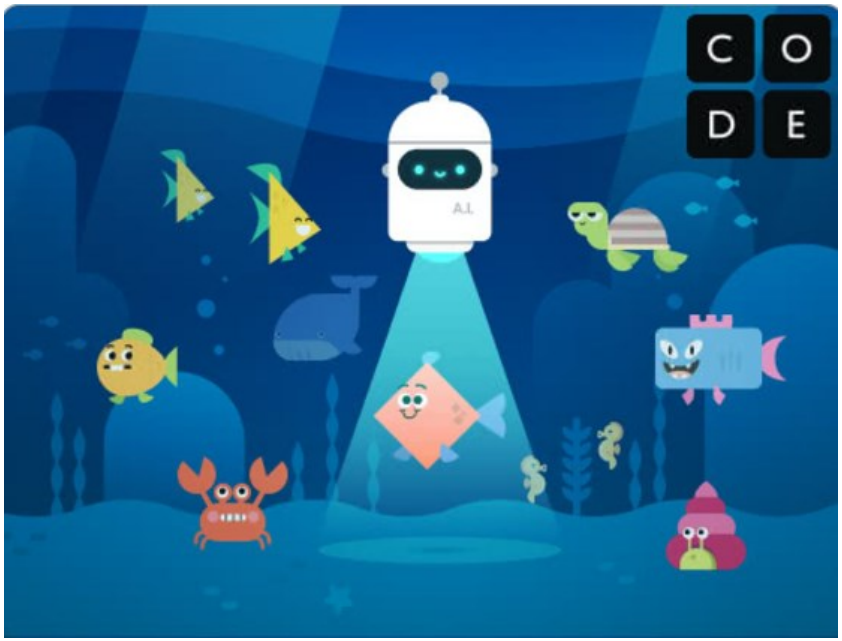
2. Train the model – Teachable Machine builds an AI model from your examples

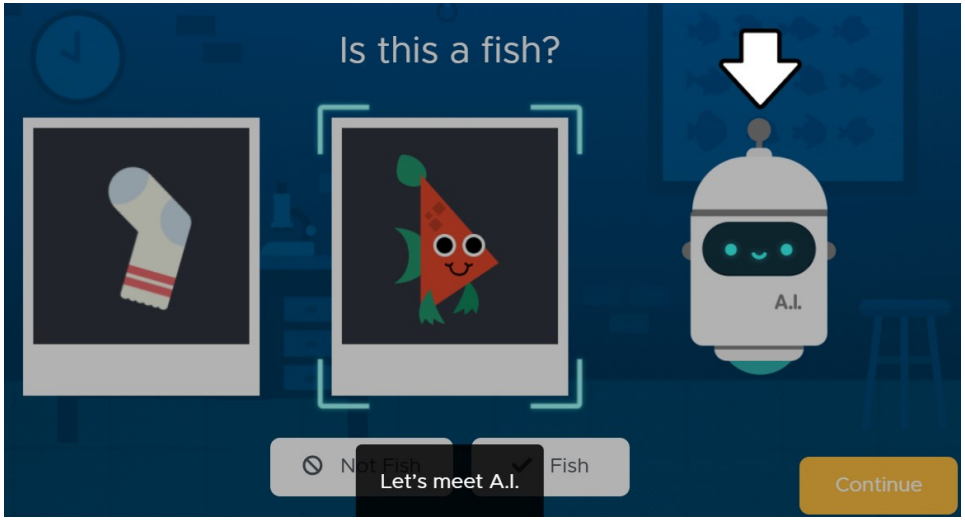
3. Test – try out the model with new inputs to see if it recognizes them correctly

4. Export

Recognizing galaxies and star constellations

For younger students
Working with image-based machine learning projects





https://studio.code.org/courses/oceans/units/1/lessons/1/levels/1

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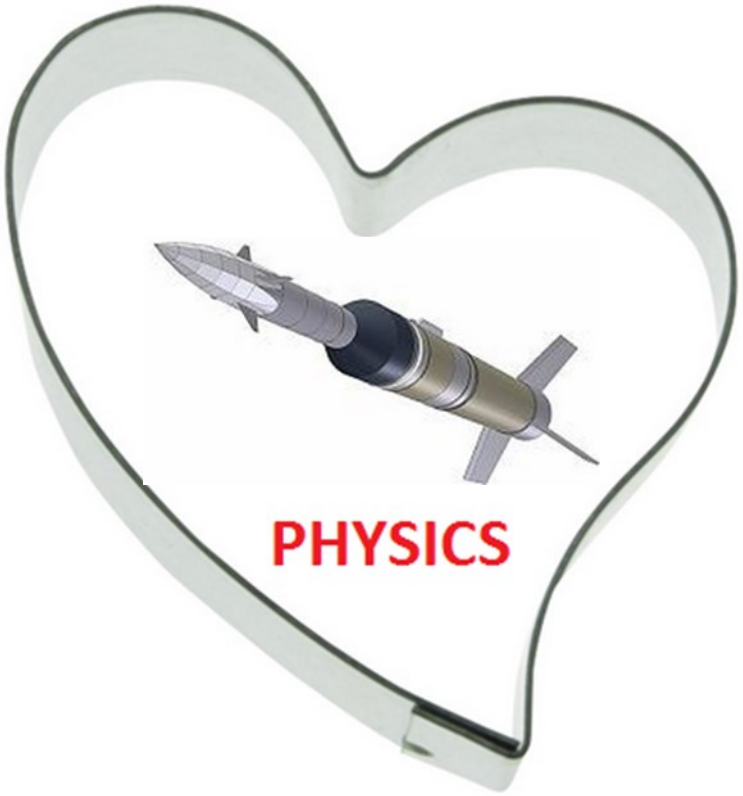

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