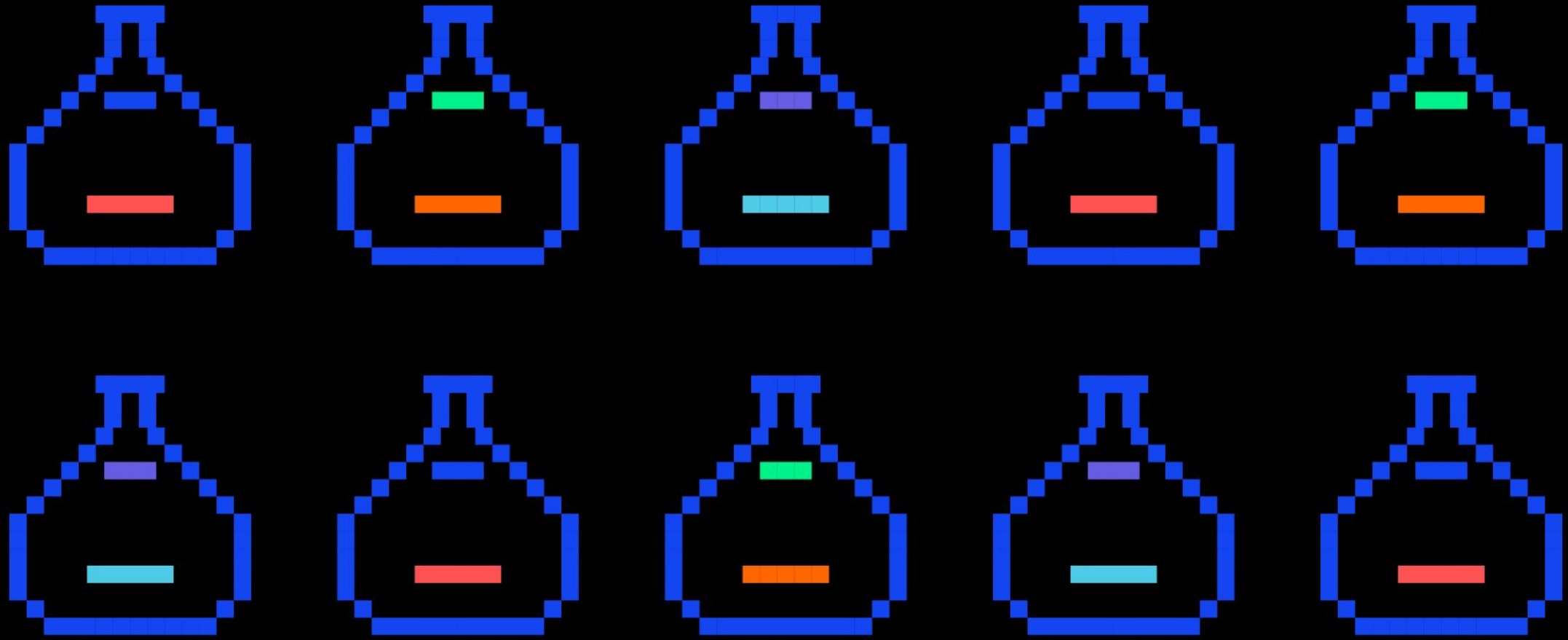
CLOUDFLIGHT
CODING
CONTEST

OvenAI



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Context

- You are a manufacturer and have a production line where you produce different items. Along the process, items are tracked using special labels written on them

- Machine Learning can contribute a lot to optimizing such production processes. A very important use case is visual quality assurance, but also automation at various stages

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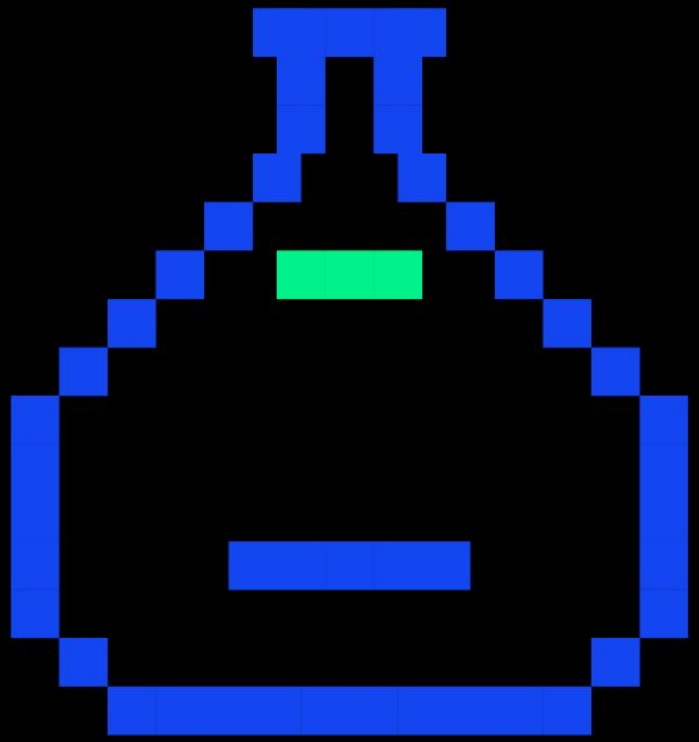
Level 1



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Level 1

- Before starting with AI, you want to do a quick analysis and check the quality of your data. You already have in place a computer vision system, that takes a photo of the item and sends it to your system

- The dimensions of images that you get and are about to process are 28x84 pixels.

0	1	2	3	4	…		81	82	83
84	85	86	87		…			166	167
168	169				…				
…	…	…	…	…	…	…	…	…	…
					…				
					…		2349	2350	2351

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Level 1

0	1	2	3	4	…		81	82	83
84	85	86	87		…			166	167
168	169				…				
…	…	…	…	…	…	…	…	…	…
					…				
					…		2349	2350	2351

- In your dataset, this array is flattened into a vector of size 2352
- Your goal is to quickly assess, which images might be more difficult for your system to recognize
- You will do that by checking the brightness of the images and remove the ones that might be too dark

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Level 1

- Input data:
  - Images from the system
    - Format:

      N (integer) - number of examples

      T (integer) - threshold

      pixel_values (integer values separated by commas) (repeated N times, each example in its own line)- includes 2352 integers that correspond to pixel values of a flattened 28x84 image

- Output
  - Filtered images, where the average non-zero pixel is lighter than threshold
    - Format:

      M (integer) - number of images that passed the threshold

      label (integer) (repeated N times, each example in its own line) - integer (0 or 1) that represents, whether the image passed the threshold or not, given in the same order as input images