

Proposal – Mario Sorgente – AI Product Manager Course - 20211118

To accomplish the task, I decided to use an image categorization template.

- Image annotation--> Image Categorization.

This template supports the annotation, categorizing full-size images given a short list of provided options.

The preview consists of:

- Overview
- Steps
- Rules & Tips
- Examples
- Test Questions

Title

The choice of the title is fundamental to attract a reasonable number of contributors. I added "Medical Experience is NOT a must" to encourage people to take the job.

The specification "in children" in the title is not mandatory, however it gives a motivation to do a great job since we are talking about sensitive patients (I want to trigger empathy in the contributors).

Purpose

The purpose of this job is to label chest X-ray images, to assess the presence of pneumonia in children. The logic behind, aims to classify the images, considering a palpable medical experience to signalize the severity of the case (optional answer), or considering the lack of experience to proceed with standard labeling with a reasonable uncertainty.

Design

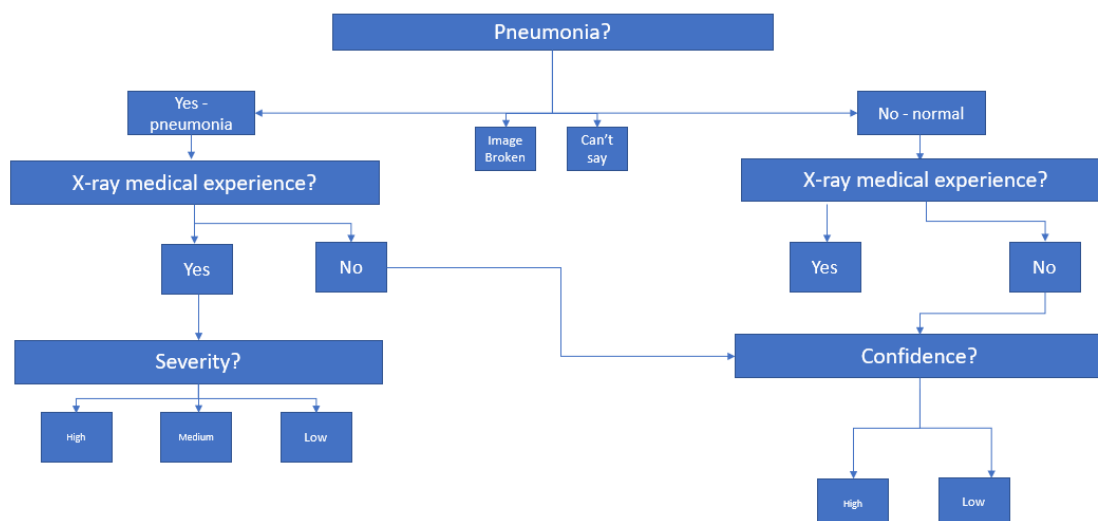


Figure 1

The algorithm is reported in Figure 1. The first step assesses the presence or not of pneumonia. The second step considers experienced or not-experienced people, this will help to classify the image with a specific severity or - considering the lack of confidence of non-trained people - will take in

consideration a level of uncertainty. I programmed the algorithm using the CML, using a combination of logic operator (not, or, and).

Strengths and weaknesses

Strengths:

- Addressing trained people will provide information also on the severity of each case
- The logic does not exclude non-trained people that are encouraged to take the test
- Reporting a broken image can help fixing the issue during the reviews

Weaknesses:

- Example cases cannot be enough for a non-trained eye
 - Solution: re-iterate post of tricky images, checking the reason why most contributor got the wrong answer
 - Solution: design for failure, including the confidence level for non-trained contributors

Test Questions

The questions help to increase the efficacy and accuracy of the job. 8 Test questions were selected for this case.

Data

The data source can be improved, contacting doctors of hospital to provide tricky images where the experience more than the image itself helps the right diagnosis.

In general, the outlook for this activity, would be to assign this task to experts only, where the questions can be tailored much more on every case. This can be done on the platform by tweaking the settings of the contributors at different thresholds.