Junior SW engineer task

Image statistics are common features in AI applications.
In the following assignment you are requested to implement a web server that handles calculation of image statistics. For example, given an image we would like to calculate the min,max,mean values etc.

The images you are asked to calculate statistics upon are stored in a Cloud Storage Bucket (similar to ASW S3 service). Requests to your web server will contain file name and the requested function to calculate. Your service will read the requested image from the bucket, calculate the requested statistics and return the result in the response.

Detailed requirements:

1. Write a python web server using Flask framework.
2. The web server will support the following routes, both will support only GET requests :
    a. /health : will respond with “OK” to any request
    b. /stats/IMAGE_FILE_NAME/FUNC_NAME : will calculate FUNC_NAME on the pixels of given IMAGE_FILE_NAME and return the result. Supported FUNC_NAMES should be:
        i. min
        ii. max
        iii. mean
        iv. median
        v. pXXX where XXX is a percentile between 0...100. For example p10 is the 10th percentile of the image, p99 is the 99th percentile
3. All the images that should be supported are stored in a bucket named : **seetree-demo-open** .
   Currently there are 10 images in this bucket named IMG_1.jpg, IMG_2.jpg … IMG_10.jpg. There might exist other images while testing your assignment.
   Your server must respond correctly to requests on any image that exists in the bucket
4. Error handling: Your server should respond with error code 404 if an image does not exist or the function is not supported
5. Examples:
    a. Request to /stats/IMG_1.jpg/min should respond with the correct min value in the image
    b. Request to /stats/IMG_1.jpg/average should respond with 404 error code
    c. Request to /stats/IMG_100.jpg/min should respond with 404 error code (assuming such image was not added to the bucket)

6. In order to read files from the bucket you can send a GET request to https://storage.googleapis.com/seetree-demo-open/FILE_NAME. The bucket has open access so no service account or special credentials are required. For example you can try opening https://storage.googleapis.com/seetree-demo-open/IMG_1.jpg in your browser.
7. You are requested to write a Dockerfile that can be used to build your application
8. You are requested to place your solution in a git repository
9. Bonus: how can we make multiple identical requests (same image and same function) more efficient ?