Azure AI Project – 30%

Individual assignment

Delivery date

November 16, 2025, until 23H59 via website – http://aka.ms/madasi-nova-ai-homework.

Description

The students need to build in Python application using Azure AI Services to create capabilities to solve the challenges of each part of this project. Each part should have it's own Python program file / Jupyter Notebook file.

All configurations should be done using .env files

Part 1 - AI based Photo Organizer

Build a python application that uses Azure AI Vision API to run through a folder with normal photos taken with a phone or camera and organizes these photos into folders based on things that were detected in each image.

The same file could eventually be copied to multiple folders in case of multiple matches.

The python application should have as input parameters the source folder and the destination folder. (if using Jupyter Notebooks these variables should be set on the first code block of the file for easy configurations)

On the root of the destination folder should also exist a metadata.json file with the list of all the photos processed, and for each photo have the metadata extracted from that photo, namely:

- Description
- Objects detected
- Tags
- …

(**be creative)**

Prolog Assignment

Part 2 – AI Based Photo Face Organizer

Similar to what you did in part 1 but now using the Face API of Azure AI Services, you will run through a folder filled with photos and for each photo that you detect a face you add that photo to a folder for that face.
You must configure a custom face detection train it to detect faces you know and put those photos in the corresponding folder for that person
Also include celebrity face detection so that if a celebrity face appear in one of the photos that celebrity is also detected and put in a corresponding and correctly named folder.

The final output should be in the destination folder, 1 folder for each face detects, + 1 folder for No Faces detected. Each folder with face detected should have the name of the custom face detected, or the name of the celebrity detected, or if none of these cases apply, the hash number of the faceID that was detected.

Like in the previous exercise, the same file could end-up in multiple folder in the case that multiple faces are detected in the same file.

The final console output should contain a summary of what was processed and detected, namely:

- Number of photos processed
- Number of unique faces detected
- Total number of faced detected
- List of face names / ids detected

- VS Code

- https://swish.swi-prolog.org/

- ….

Late Delivery

Late deliveries will have a 1 value deduction for each 8h delay in the first day, and 2 values for each 8h delay in the following days until all 20 values are deducted.

Exemple:

- 9h delay will mean – 2x8h delay blocks -> -2 values
- 26h delay will mean – 3x8h delay blocks of day 1 + 1x8h block in day 2 -> -5 values

Deliverables

- 1 python file program for each part of the exercise
- Put them all together in a zip file.
- Submit final project on the website – http://aka.ms/madasi-nova-ai-homework