Introduction to Computer Vision-10224

Lab 0 – Setting up the environment and basic ops

1. Goals:

- Course overview
- Creating and managing a local environment with Anaconda/Miniconda
- Workspace overview
  - Google Colaboratory
  - Jupyter Notebook
- Common Computer Vision libraries overview
  - OpenCV
  - MatplotLib
  - Pillow(PIL)
- Assignments guidelines
  - Code written in the assignments **MUST** follow the PEP-8 guidelines

2. Preparatory report:

- None for the first lab.

3. Lab session:

- Workspace management:
  - Anaconda (A tool for managing environments) installation guide.
- Reading an image via different libraries.
- Plotting an image with Matplotlib:
  - Plotting a colored image.
  - A word on color channels order
  - Grayscale plotting.
- Brief color spaces overview.
  - Converting color spaces

4. Summary report:

- Write a small TL;DR (too long didn't read) summary at the top of the notebooks above your solutions for the required exercises.

5. Dependencies

- Libraries:
  - OpenCV
  - MatplotLib
  - Pillow(PIL)
- Data:
  - Lab:
    - Demo_RGB_image.png
  - Full report:
    - Zebra.jpg
    - Messi.jpg

6. Guidelines:

- Code written in the assignments **MUST** follow the PEP-8 guidelines, code not following these guidelines will be disqualified.
- You may use either Google Colab or Local Jupyter notebook session.
- Use Markdown cells in-between your code cells to explain what you've done.
- Assignments must be submitted as .html with all the required plots.
- Some exercises will require offline reading, you may use Google and stackoverflow for inspiration, although if you use it make sure to attach the reference link.
- Add as much comments you need to explain yourself, you wouldn't want to assume we fully understand your intuition.
- Code should be well ordered, formatted and readable.