

Edge Intelligence Lab – 1

# Image Data Analysis

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25MML0058

AHAMED RAZI

For this lab, a complete workflow was executed to download, inspect, and explore an animal image dataset. The process began by installing the required Python libraries, specifically Kaggle and OpenDatasets, which enable direct access to publicly available datasets on Kaggle. This allowed the dataset to be imported directly from its online source into the working environment. To perform initial dataset exploration, I loaded individual images using the Python Imaging Library and displayed them using Matplotlib. This step confirmed that the images were readable and provided insight into their dimensions and content. The exploratory phase also included examining image shapes and displaying sample images.

While running the same program on a desktop in the lab, an error occurred when attempting to import and use Matplotlib. The specific error message displayed can be seen below in the attached image.

```
img = Image.open(os.path.join(dataset_path, image_name))

# Display the image in Jupyter
plt.imshow(img)
plt.axis('off') # Hide axis
plt.show()

24     NullFormatter, ScalarFormatter, LogFormatterSciNotation, LogitFormatter,
25     NullLocator, LogLocator, Autolocator, AutoMinorLocator,

C:\ProgramData\Anaconda3\lib\site-packages\matplotlib\ticker.py in <module>
    134 import matplotlib as mpl
    135 from matplotlib import _api, cbook
--> 136 from matplotlib import transforms as mtransforms
    137
    138 _log = logging.getLogger(__name__)

C:\ProgramData\Anaconda3\lib\site-packages\matplotlib\transforms.py in <module>
    44
    45 from matplotlib import _api
--> 46 from matplotlib._path import (
    47     affine_transform, count_u_bboxes_overlapping_bbox, update_path_extents)
    48 from .path import Path

ImportError: numpy.core.multiarray failed to import
```

After searching for a bit, I found out that the error typically indicates a version mismatch or corruption between NumPy and Matplotlib. A possible solution to fix the error is to downgrade the Numpy version or reinstall both Numpy and Matplotlib.

Another solution is to use a virtual python environment and install all the required libraries

along with Matplotlib and Numpy in that environment so that we can ensure there won't be any kind of conflict between libraries which could cause similar errors.