**Hands-on Assignment 12**

**Due Date: See web**

In this assignment, you are required to generate explanations for the classification results of 10 test images (included in the in the accompanying zip file) using any two different Convolutional Neural Network (CNN) models. You do not need to train the model by yourself. Use the models pre-trained on ImageNet available at [https://pytorch.org/vision/0.8/models.html.](https://pytorch.org/vision/0.8/models.html)

You will employ Grad-CAM and LIME methods to create these explanations. The implementation for Grad-CAM can be found in the XAI Tutorial, while the LIME implementation can be accessed at [https://github.com/marcotcr/lime.](https://github.com/marcotcr/lime)

Please submit a report summarizing your results via Canvas. The report should be well-organized and presented in either a docx or pdf format. Ensure that your report contains the following sections:

1. **Predictive Scores:** Include the predictive scores for the images obtained from the two different CNN models.

1. **Heatmaps for Visualization:** Provide heatmaps generated using both Grad-CAM and LIME for the prediction of each image from both models.

1. **Discussion on the Results:** Discuss any interesting findings or analyses. This can include, but is not limited to:

* Comparing the heatmaps generated by Grad-CAM and LIME;
* Analyzing how the heatmaps highlight differences in prediction behaviors between the two models, especially if the models produce different predictions for the same image.

Your work will be evaluated based on the quality of your explanations and analysis. Please note that similarity scores will be computed for this assignment to ensure originality.

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