



## IIT KHARAGPUR AI4ICPS I HUB FOUNDATION

Hands-on Approach to AI, Cohort-2, July – October 2024

### Assignment 8: Deep Learning

Due date: Friday 6<sup>th</sup> September 2024, EOD – IST.

#### Important Instructions for submitting solutions

1. Submit the solution to all questions in the assignment should be submitted in a **single PDF file with not more than 500 words**.
2. Any plagiarism if detected will automatically attract **zero marks** for that assignment.
3. It is preferable if the **text of PDF file can be extracted** through a PDF extractor e.g. PyPDF. For example, pictures of handwritten text are not extractable, whereas PDF generated by MS Word, Latex, etc., are.
4. Exceptionally good solutions with extractable text may receive **special appreciation** from the teachers.

Assignment:

You have been asked to develop an image classification model using an existing pre-trained model.

1. Enumerate three design choices for your architecture.
2. Write down the merit and demerits of the design choices you have come up with
3. What is a better choice: Fine tuning the shallower layers or the deeper layers? Justify in the context of image classification problem