

Image Analysis and Processing 2nd Assignment

30 May 2025

Use the dataset in <https://www.kaggle.com/paultimothymooney/chest-xray-pneumonia> and develop an intelligent system to detect pneumonia in chest X-ray images. Consider the following steps:

- 1) Explore the data and define appropriate classes
- 2) Visualize data and employ appropriate preprocessing to X-ray images
- 3) Develop the detection algorithms
 - a. Using features and classical machine learning techniques
 - b. Using a neural network architecture (you may investigate training various architectures or use pretrained ones)
- 4) Present the results of your algorithms (confusion matrix, accuracy, etc.)