Project Proposal

Group 9:

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Title: Transformer-Based Multi-Modal Data Fusion Method for COPD Classification

Problem to investigate:

Our investigation will be around the healthcare area more specifically in the prevention and classification of pulmonary diseases in chronic patients as Chronic obstructive pulmonary disease (COPD) is the third leading cause of death worldwide, causing 3.23 million deaths in 2019. So its imperative that we minimize the overall number of deaths worldwide by detecting the acute COPD earlier.

Context and background:

We will base our search/reading in papers (paper1, paper2 , paper 3 , and others) and the official information about the COPD in the WHO (World Health Organization) site.

Data:

Data regarding the COPD chronic patients, as we aim to have a multi modal project we have different types of data like text, images and voice. There are plenty of datasets to use like: Camden COPD Prevalence 2014-15 , GP recorded chronic obstructive pulmonary disease rates (COPD)

Algorithm:

We will use a transformer-based architecture with multi modal input data and will do a data fusion of it for classification of COPD diseases.

Evaluation of results:

Our first task in the project is to define a specific smaller scope in the COPD and for that we will define our evaluation metrics.