Medical Image Segmentation Methods

The aim of this research is to study the efficiency of methods, how great each of them work, to analyse how precise they identify the malign formations, how fast to they find them and how much memory consuming is each one. We can improve and innovate through new algorithms or hybridization between artificial intelligence algorithms where you can combine strategies, for example we could create a new one either by creating one from scratch, either by intercalating a supervised method with an unsupervised method, or merging two supervised/unsupervised methods. There are many possibilities to contribute to these algorithms and create a new faster, more accurate and powerful one. Unfortunately, even if there are many resources, there are not many ground truths to work with beside the ones that come with challenges, competitions, some from other researchers. It’s a great path to take because some physical methods of finding breast cancer for example, are hurtful, others are unethical but necessary that way because there is literally nothing else to change it with, so by researching this, we can create new methods of finding diverse issues with the human body of someone, without disrupting their privacy and making them feel exposed, or too vulnerable. The steps to do all of this start with researching methods for medical image segmentation, then learning how to program a simple AI, then apply the used algorithms and analyse the results, train the AI on the given images and improve the algorithm for improving the accuracy on the results, until the ground truth is found. Is a detailed process that I cannot yet provide since I’m in the beginning stage of the project and that means I’m now just studying the methods, so the big steps of the whole plan, even if it’s not yet final, are provided.