

GSoC 2022 Proposal

Integration of Transfer Learning techniques to make the annotation process more efficient

With the latest research indicating that Deep Learning is a very promising tool in the field of object detection, I would like to propose a method of providing label predictions for the user. Using state-of-the-art architectures and methodologies we could provide the user with a choice of whether or not he would like to make use of an assistance in his process of annotating data. Thus, the user could make use of a “small assistant” (e.g., One stage detector being faster) or a “big assistant” (e.g., Two stage detector being slower but more accurate). For example, we could use a pretrained YoloX model and by asking the user of the type of object he would like to detect (e.g., “tree”) we could inform him of whether or not an assistant is available. Furthermore, we could have different assistants specialized in a certain variety of objects so that his accuracy is way higher. This can be done by utilizing the user’s answer of the type of object he would like to detect. Thus, there could be an “animal assistant” etc.

A bit about me

My name is Dimitrios Spanos and I’m a student in AUTH, Greece. My will to solve problems and my love for mathematics have driven me to become a Computer Engineer. I've learned to work with consistency, while being methodical and efficient. I've come to realize that my personal growth and the betterment of the general standard of living are my driving force for continuous advancement.

Currently, I’m assisting a postdoc researcher in the field of Astronomy (Gravitational Wave Detection) and my goal is to proceed with a PhD in the field of “Deep Learning for Genomics” even though at this moment I’m in the process of taking my first steps in the field of Biology. Thus, I think with the proper guidance I will be able to contribute to your open-source projects.

Finally, I don’t have any undergraduate courses I need to attend to and in the summer in the worst-case scenario I will be wrapping up my thesis in the field of Machine Learning. Lastly, some of my previous work can be found in my Github account [here](#).