

- Think about possible binary classification, multi-class classification and regression tasks. What hypothesis spaces can be considered?

Binary classification

In the binary classification tasks, we can consider the hypothesis space \mathcal{H} as anything which separates data into two different groups. This means that we can consider for sure straight lines but also curved lines or set of circles that separates classified data into two categories.

Multi-class classification

It's very similar to the previous description of the binary classification tasks with the difference that every element could be assigned to a class between n instead of 2. The hypothesis space \mathcal{H} can be a set of several straight lines, several curved lines and also circles.

Regression

The hypothesis space can be considered as a set of lines, e.g. linear regression, or other functions with an higher degree, e.g. polynomial regression