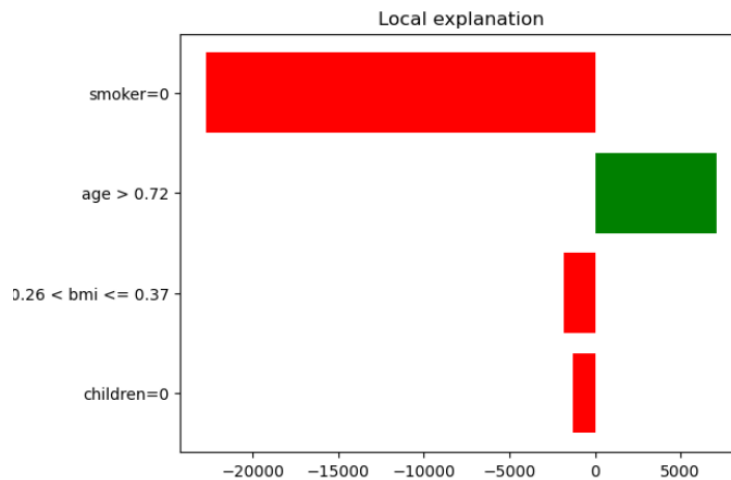


Report

1. Todo answers:



a.

2. Local coefficient[('smoker=0', -22629.700250491635)]

3. Error in the local model: [11557.8896505]

4. Questions:

- The local model is a simple interpretable model that is trained to estimate the behaviour of the complex model, for a single observation. You can use a linear regression model for this. The aim of the local model is to provide an interpretable approximation of the complex model's prediction in the general neighbourhood of that specific instance.
- When factors have opposing directions in a LIME explanation, that means that the coefficients of the local model for those features have opposite signs. One feature is contributing positively to the prediction, while the other is contributing negatively. Two features could be working against each other.
- The error became smaller, which means that the local model is doing a decent job of approximating the random forest's prediction, even with just one feature. This is because the fidelity is directly related to how well the local model approximates the RF model's prediction. The fidelity should drop if that one feature isn't a dominant factor in the RF prediction. This would show up as a larger error, which it is not. The local model's prediction is therefore not far off from the random forest's.

5. Questions:

- The top 5 labels and their probabilities:
 - o Labrador_retriever: 76.36%
 - o American_Staffordshire_terrier: 2.31%
 - o golden_retriever: 0.99%
 - o Great_Dane: 0.96%
 - o bull_mastiff: 0.91%
- 60 super pixels.
- I think that increasing the number of super pixels increases it a bit, but the main explaining super pixels make the biggest difference in the look of the labrador retriever. That means that in general, increasing the numbers does improve the explanation to a certain degree, but when you use too many then it does not improve the explanation anymore.