NON-LINEAR OPTIMIZATION

we know how to fit lines or linear functions. what about when the function is non-linear?

consider the corona data of your choice (eg. countries / states / cities / world) and what Cinfected, tested, death, recovered) you can also take multiple such data:

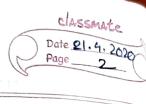
Objection that suits the data.

clearly explain why this is good model,
including references.

write the objective function, and how to
optimize with GD and newton's. your
output is a brief report (not more than
one page in writing).

(2) demonstrate how to model using the clata.

Please show how the objective function converge and how good your model at the end (quantitatively). your output is a set of graphs and brief explanations.



(3) consider the phase of decline of cases in the case of corona. how do we fit a model and calculate when f(x) = 0 i.e. when is it safe to start moving freely? Cor should we salve for f(x) = 0.

Use china data and the data from italy and see when will chaly be safe? If your answer is not realistic, what could be the reasons?