

My Code for the task can be viewed at:

[https://github.com/sayarghoshroy/COVID-19\\_Modelling\\_for\\_India](https://github.com/sayarghoshroy/COVID-19_Modelling_for_India)



2) Note that I implemented all updates & solvers from scratch. No optimization modules were used. I set  $\Delta\beta = \Delta\gamma = 2 \times 10^{-4}$  for gradient computation.

You can view the plots with generated model of type S.I.R having optimized  $\beta, \gamma$  values. Clearly, it approximates the gold standard data. The loss also decreases with every iteration.

I used my own code for the generation of plots; computation of approximate gradients & generation of losses.

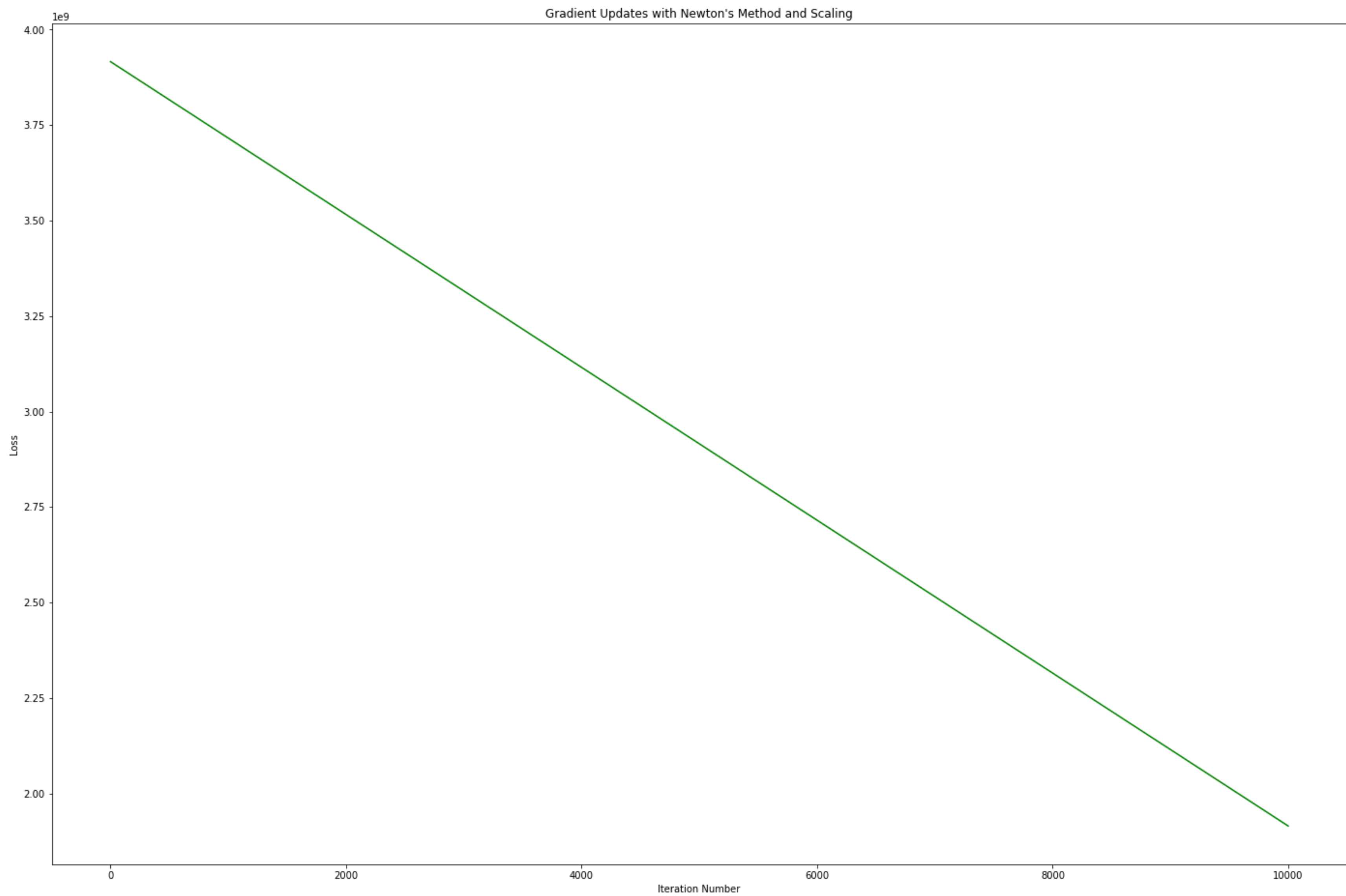
The computed parameters are:

$$\beta = 0.32180981$$

$$\gamma = 0.05436534$$

The dashed red line (True I) is nicely modelled by the solid red line (Modelled I).





Comparison: Gold Standard Data and Model Generated Data

