Questions

1. **Complete the code and try to find the best result by changing the optimizer and learning rate**.

Our best result was achieved with ADAM optimizer and learning rate .

1. **Why CORONA is called unfolded network or model-driven network?**

CORONA unfolds the iterative algorithm into a fixed-length deep network. We are not sure what model-driven network is, but it might be because the CORONA enhances mathematical model.

1. **If we use an iterative algorithm, we may need to iterate at least 100 times to get the result, why do you think we only need 3 layers here?**

We are able to improve convergence because we are using much better matrices.

Experiments showed that after 5 layers the performance remains roughly the same.

1. **In the code, α (a hyperparameter in the loss function) is set to 0.5, what do you think will be the difference if it is changed to 0.2 or 0.8? why?**

The parameter is responsible for the balance between the influence of low-rank and sparse components in the loss function. Thre larger – the better prediction of the background and worse prediction of dynamic objects we’ll get.

1. **In the code, there are three layers in the network, what difference will it make if it is changed to two layers? why? Please run a simulation to test your ideas.**

This is what’s happening:



The network has too few layers to learn complex enough function for this task.