Term2: Project1 - Extended Kalman Filters

1. Attached FusionEKF.cpp, kalman_filter.cpp and tools.cpp files.

The screenshot below shows the RMSE values when both Laser and Radar updates are used for predictions. The values are below the requirement of

[.11, .11, 0.52, 0.52].

Fig.1 Radar updates - ON, Laser updates - ON

2. I then turned off Laser updates(in the FusionEKF file) and used only Radar updates to see how it'd affect the RMSE values. See below screenshot.
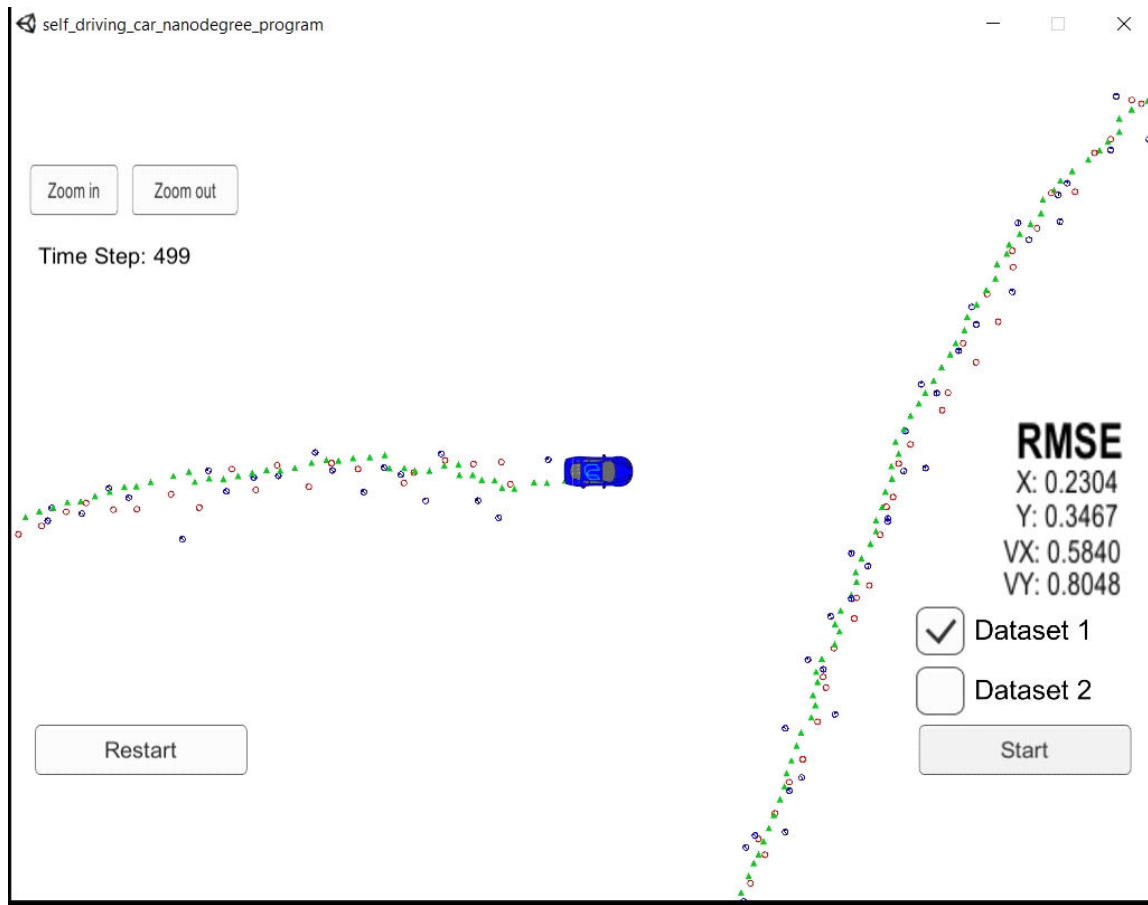
Fig.2 Radar updates - ON, Laser updates - OFF

3. Later turned off Radar updates(in the FusionEKF file) and used only Laser updates to see how it'd affect the RMSE values. See below screenshot.

Fig.3 Radar updates - OFF, Laser updates - ON

Conclusion: From the RMSE values it can be seen that Laser sensor provides more accurate updates in this case. There's higher error in poistion in Radar compared to Laser which can be attributed to the higher resolution of Laser sensors.

But only after combining Laser and Radar updates, the RMSE values for both position and velocity got down below the acceptable levels.