

Parameters of Non-Homogeneous Poisson Process:

End-time = 100;

Avg. Arrival Rate = 2;

Relative Amplitude = 5;

Cycle length = 1;

Parameters of serving system:

Number of servers = 3;

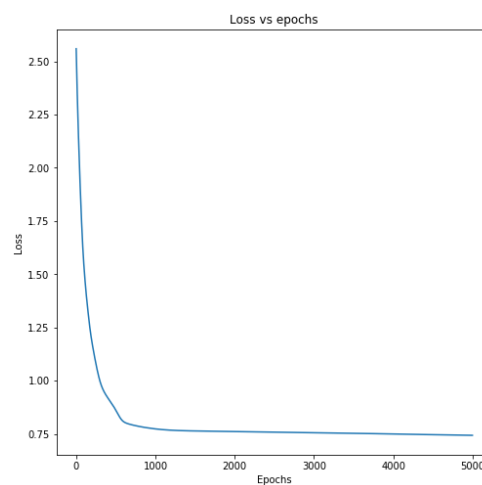
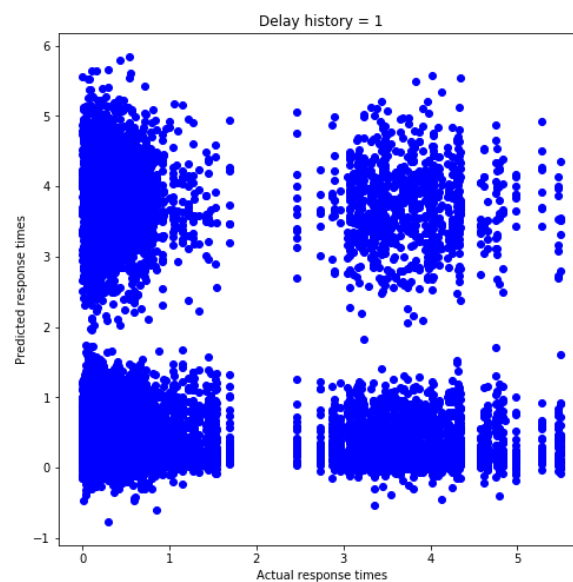
Arrival = Exponential with $\lambda = 1$;

Service = Trace generated by NHPP above;

Response times calculated after running this process and states seen by a job upon arriving are used as data for MDN;

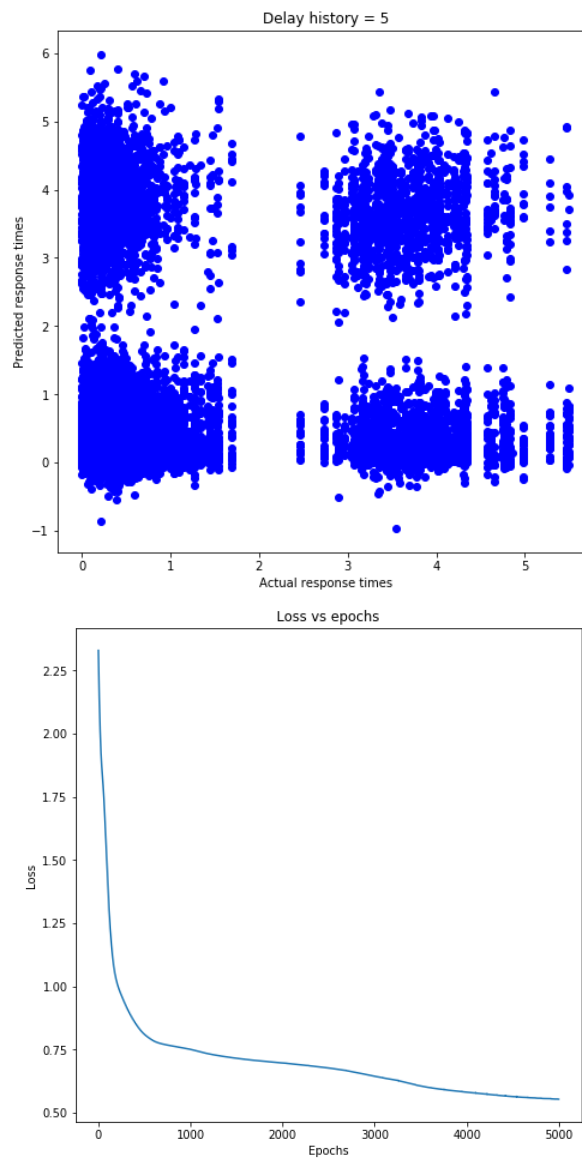
Results when delay history = 1:

Loss = **0.7441**



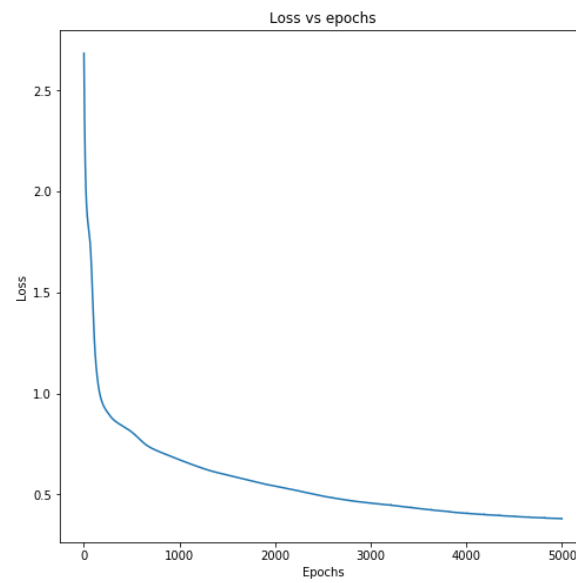
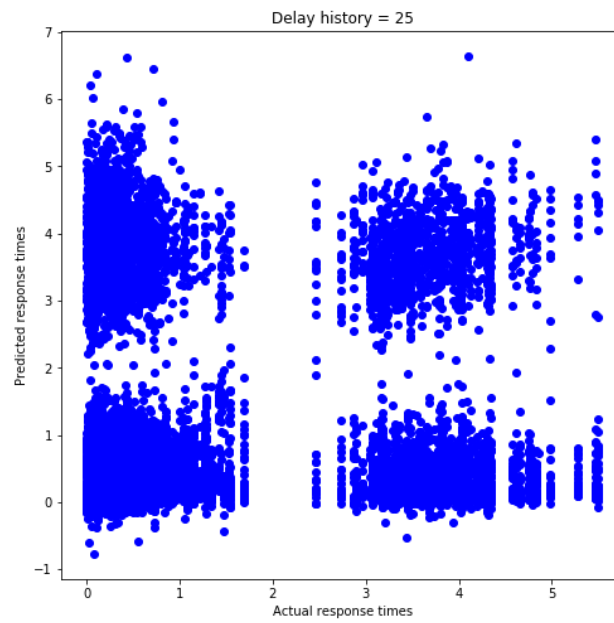
Results when delay history = 5:

Loss = **0.5559**



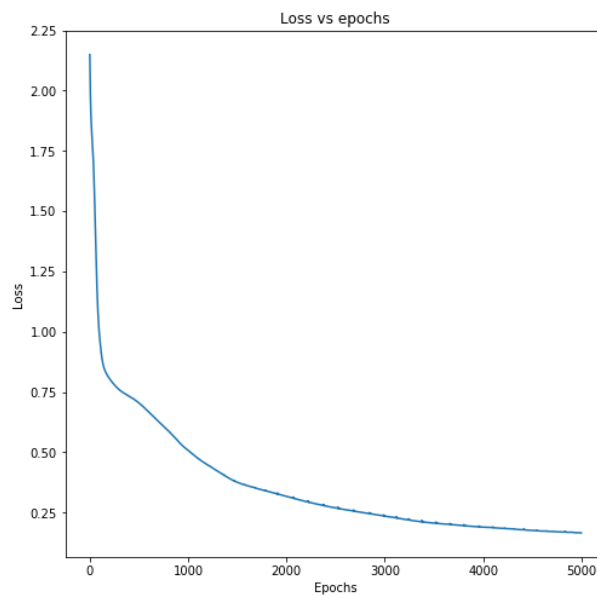
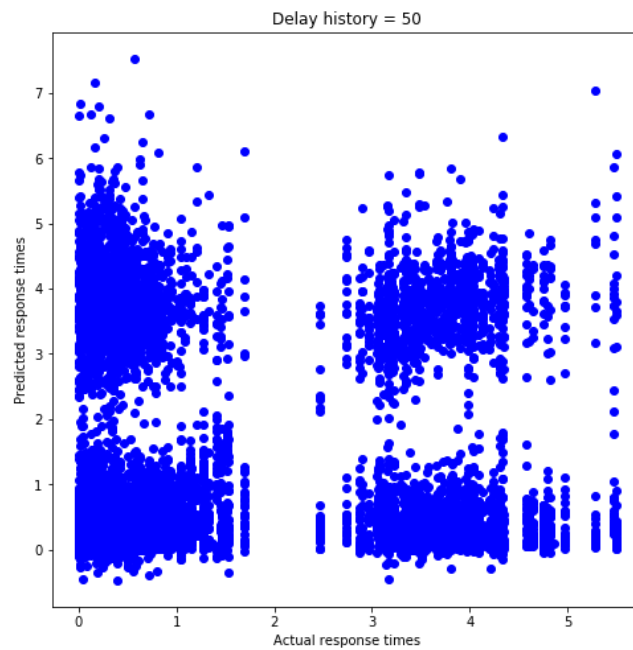
Results when delay history = 25:

Loss = **0.3808**



Results when delay history = 50

Loss = **0.1678**



Number of states seen upon arrival:

In this system with three servers, the number of jobs who see 0 states ahead of them upon arrival are 23817 out of 30000 jobs. This means that most of the jobs get served instantly upon arrival and in this case the response time only depends on the serving time by the servers. So, will this provide a good representation of response times to our MDN, because the service time has already been defined before starting the process as NHPP. Or should have the arrival times been set as NHPP, but I thought since we are using the trace of the times, service time should be set as such.