

| AUTOREGRESSIVE (AR) MODEL EXPERIMENT REPORT | | | | | | | | | | |
|--|----------|-------------|----------------|-----------------|-------------|----------------|-----------------|-------------|----------------|-----------------|
| AUTOREGRESSIVE (AR) MODEL EXPERIMENT OBSERVATION CHART | | | | | | | | | | |
| lags=1 | | | | | | | | | | |
| Training Data = 0.8*Size Testing Data =0.2*Size | | | | | | | | | | |
| Data has been generated from an AR(1) process | size (M) | numpy | | | pandas | | | hdfs | | |
| | | time (min) | Accuracy (MSE) | difference (MB) | time (min) | Accuracy (MSE) | difference (MB) | time (min) | Accuracy (MSE) | difference (MB) |
| | 10 | 0.513462297 | 5.214427252 | 431.917231 | 0.550429678 | 5.214427252 | 431.898845 | 0.700871559 | 5.214427252 | 431.90867 |
| | 15 | 0.600423153 | 5.251976088 | 647.911672 | 0.650774769 | 5.251976088 | 647.897227 | 0.637774956 | 5.251976088 | 647.910275 |
| | 20 | 0.752542428 | 5.25320599 | 863.906627 | 0.795364428 | 5.25320599 | 863.895046 | 0.797449978 | 5.25320599 | 863.91058 |
| | 25 | 0.871398461 | 5.259769583 | 1079.904227 | 0.907406318 | 5.259769583 | 1079.896985 | 0.902429104 | 5.259769583 | 1079.910988 |
| | 30 | 1.168976672 | 5.264601278 | 1295.906392 | 1.163338824 | 5.264601278 | 1295.895681 | 1.237091752 | 5.264601278 | 1295.908799 |
| | 35 | 1.211131163 | 5.256028697 | 1511.906717 | 1.182134744 | 5.256028697 | 1511.894478 | 1.202910388 | 5.256028697 | 1511.903419 |
| | 40 | 1.338074259 | 5.270251388 | 1727.902394 | 1.397692279 | 5.270251388 | 1727.894595 | 1.480599213 | 5.270251388 | 1727.905703 |
| | 45 | 1.50793881 | 5.25960187 | 1943.905957 | 1.521488074 | 5.25960187 | 1943.893718 | 1.580452919 | 5.25960187 | 1943.90349 |
| | 50 | 1.603305451 | 5.255433081 | 2159.906439 | 1.569773241 | 5.255433081 | 2159.895584 | 1.602470668 | 5.255433081 | 2159.908766 |
| | 55 | 1.737043691 | 5.251966819 | 2375.905006 | 1.812404692 | 5.251966819 | 2375.898926 | 1.906907809 | 5.251966819 | 2375.90287 |
| | 60 | 2.250820935 | 5.264818622 | 2591.906155 | 1.882661895 | 5.264818622 | 2591.893048 | 2.002477252 | 5.264818622 | 2591.904988 |
| | 65 | 2.601767834 | 5.259230709 | 2807.908415 | 2.233795484 | 5.259230709 | 2807.890767 | 2.22632242 | 5.259230709 | 2807.905518 |
| | 70 | 3.300281604 | 5.258454574 | 3023.906398 | 3.006411374 | 5.258454574 | 3023.897055 | 2.772377578 | 5.258454574 | 3023.910303 |
| | 75 | 3.586272216 | 5.266717766 | 3239.909831 | 7.236178601 | 5.266717766 | 3239.896245 | 3.793013398 | 5.266717766 | 3239.904423 |
| | 80 | 12.65398282 | 5.256475068 | 3455.802486 | 8.123555255 | 5.256475068 | 3455.898286 | 10.97198582 | 5.256475068 | 3455.904145 |

