

Threshold-based Probability Estimation

Measurement	Threshold	Threshold_Value	Probability_Larger	Probability_Smaller
load-15m	mean	7.3344	0.4993	0.5007
load-15m	10%(max)	2.5	0.733	0.267
load-15m	90%(max)	22.5	0.0095	0.9905
memory_used_pct	mean	5.5131	0.4134	0.5866
memory_used_pct	10%(max)	0.869	1.0	0.0
memory_used_pct	90%(max)	7.8207	0.0052	0.9948
cpu-user	mean	0.042	0.3884	0.6116
cpu-user	10%(max)	0.0113	1.0	0.0
cpu-user	90%(max)	0.1013	0.0274	0.9726
cpu-system	mean	0.0341	0.3638	0.6362
cpu-system	10%(max)	0.0083	1.0	0.0
cpu-system	90%(max)	0.0743	0.0155	0.9845
sys-thermal	mean	0.6043	0.4526	0.5474
sys-thermal	10%(max)	0.28	0.4582	0.5418
sys-thermal	90%(max)	2.52	0.0037	0.9963
sys-interrupt-rate	mean	914.5107	0.447	0.553
sys-interrupt-rate	10%(max)	124.985	1.0	0.0
sys-interrupt-rate	90%(max)	1124.865	0.0265	0.9735
disk-io-time	mean	0.0004	0.4275	0.5725
disk-io-time	10%(max)	0.0001	0.7694	0.2306
disk-io-time	90%(max)	0.0011	0.0003	0.9997

## Crosstable Analysis Based on Mean Threshold

	x > Mean	x < Mean	Total
load-15m	35424	35520	70944
memory_used_pct	29328	41616	70944
cpu-user	27558	43386	70944
cpu-system	25811	45133	70944
sys-thermal	32106	38838	70944
sys-interrupt-rate	31712	39232	70944
disk-io-time	30327	40617	70944

Conditional Probability Analysis

Condition	Probability
P(load-15m > (mean)   memory_used_pct > (mean))	0.38
P(load-15m < (mean)   memory_used_pct > (mean))	0.0334
P(load-15m > (mean)   cpu-user > (mean))	0.2741
P(load-15m < (mean)   cpu-user > (mean))	0.1143
P(load-15m > 90%(max)   cpu-user > 90%(max))	0.001
P(load-15m > (mean)   cpu-system > (mean))	0.2607
P(load-15m < (mean)   cpu-system > (mean))	0.1031
P(load-15m < 10%(max)   cpu-system > 90%(max))	0.001
P(cpu-system > 90%(max)   load-15m < 10%(max))	0.001
P(load-15m > (mean)   sys-thermal > (mean))	0.2266
P(load-15m < (mean)   sys-thermal > (mean))	0.2259
P(load-15m < 10%(max)   sys-thermal < 10%(max))	0.1455
P(sys-thermal < 10%(max)   load-15m > 90%(max))	0.0053
P(load-15m > 90%(max)   sys-thermal < 10%(max))	0.0053
P(load-15m > (mean)   sys-interrupt-rate > (mean))	0.2985
P(load-15m < (mean)   sys-interrupt-rate > (mean))	0.1485
P(load-15m > 90%(max)   sys-interrupt-rate > 90%(max))	0.0011
P(load-15m > (mean)   disk-io-time > (mean))	0.2615
P(load-15m < (mean)   disk-io-time > (mean))	0.166
P(load-15m < 10%(max)   disk-io-time < 10%(max))	0.0844
P(disk-io-time < 10%(max)   load-15m > 90%(max))	0.001
P(load-15m > 90%(max)   disk-io-time < 10%(max))	0.001
P(memory_used_pct > (mean)   cpu-user > (mean))	0.268
P(memory_used_pct < (mean)   cpu-user > (mean))	0.1204
P(memory_used_pct > (mean)   cpu-system > (mean))	0.2555
P(memory_used_pct < (mean)   cpu-system > (mean))	0.1083
P(memory_used_pct > (mean)   sys-thermal > (mean))	0.1892
P(memory_used_pct < (mean)   sys-thermal > (mean))	0.2633
P(sys-thermal < 10%(max)   memory_used_pct > 90%(max))	0.0029
P(memory_used_pct > 90%(max)   sys-thermal < 10%(max))	0.0029
P(memory_used_pct > (mean)   sys-interrupt-rate > (mean))	0.2856
P(memory_used_pct < (mean)   sys-interrupt-rate > (mean))	0.1614
P(memory_used_pct > 90%(max)   sys-interrupt-rate > 90%(max))	0.0018
P(memory_used_pct > (mean)   disk-io-time > (mean))	0.2409
P(memory_used_pct < (mean)   disk-io-time > (mean))	0.1866
P(cpu-user > (mean)   cpu-system > (mean))	0.3099
P(cpu-user < (mean)   cpu-system > (mean))	0.0539
P(cpu-user > 90%(max)   cpu-system > 90%(max))	0.0086
P(cpu-user > (mean)   sys-thermal > (mean))	0.178
P(cpu-user < (mean)   sys-thermal > (mean))	0.2745
P(sys-thermal < 10%(max)   cpu-user > 90%(max))	0.0139
P(cpu-user > 90%(max)   sys-thermal < 10%(max))	0.0139
P(cpu-user > (mean)   sys-interrupt-rate > (mean))	0.2732
P(cpu-user < (mean)   sys-interrupt-rate > (mean))	0.1738
P(cpu-user > 90%(max)   sys-interrupt-rate > 90%(max))	0.0026
P(cpu-user > (mean)   disk-io-time > (mean))	0.2132
P(cpu-user < (mean)   disk-io-time > (mean))	0.2143
P(disk-io-time < 10%(max)   cpu-user > 90%(max))	0.0013
P(cpu-user > 90%(max)   disk-io-time < 10%(max))	0.0013
P(cpu-system > (mean)   sys-thermal > (mean))	0.1679
P(cpu-system < (mean)   sys-thermal > (mean))	0.2847
P(sys-thermal < 10%(max)   cpu-system > 90%(max))	0.0082
P(cpu-system > 90%(max)   sys-thermal < 10%(max))	0.0082
P(cpu-system > (mean)   sys-interrupt-rate > (mean))	0.2726
P(cpu-system < (mean)   sys-interrupt-rate > (mean))	0.1744
P(cpu-system > 90%(max)   sys-interrupt-rate > 90%(max))	0.0023
P(cpu-system > (mean)   disk-io-time > (mean))	0.2031
P(cpu-system < (mean)   disk-io-time > (mean))	0.2243
P(disk-io-time < 10%(max)   cpu-system > 90%(max))	0.0011
P(cpu-system > 90%(max)   disk-io-time < 10%(max))	0.0011
P(sys-thermal > (mean)   sys-interrupt-rate > (mean))	0.2059
P(sys-thermal < (mean)   sys-interrupt-rate > (mean))	0.2411
P(sys-thermal < 10%(max)   sys-interrupt-rate > 90%(max))	0.0142
P(sys-interrupt-rate > 90%(max)   sys-thermal < 10%(max))	0.0142
P(sys-thermal > (mean)   disk-io-time > (mean))	0.1954
P(sys-thermal < (mean)   disk-io-time > (mean))	0.232
P(sys-thermal < 10%(max)   disk-io-time < 10%(max))	0.1267
P(sys-interrupt-rate > (mean)   disk-io-time > (mean))	0.2423
P(sys-interrupt-rate < (mean)   disk-io-time > (mean))	0.1852
P(disk-io-time < 10%(max)   sys-interrupt-rate > 90%(max))	0.0013
P(sys-interrupt-rate > 90%(max)   disk-io-time < 10%(max))	0.0013