

Threshold-based Probability Estimation

Measurement	Threshold	Threshold_Value	Probability_Larger	Probability_Smaller
load-15m	mean	0.035	0.3567	0.6433
load-15m	10%(max)	0.017	0.4598	0.5402
load-15m	90%(max)	0.153	0.031	0.969
memory_used_pct	mean	4.9265	0.4232	0.5768
memory_used_pct	10%(max)	0.5724	1.0	0.0
memory_used_pct	90%(max)	5.152	0.1369	0.8631
cpu-user	mean	0.0281	0.4687	0.5313
cpu-user	10%(max)	0.0039	1.0	0.0
cpu-user	90%(max)	0.0351	0.0289	0.9711
cpu-system	mean	0.0227	0.4852	0.5148
cpu-system	10%(max)	0.003	1.0	0.0
cpu-system	90%(max)	0.0274	0.0432	0.9568
sys-thermal	mean	0.4721	0.3207	0.6793
sys-thermal	10%(max)	0.3	0.321	0.679
sys-thermal	90%(max)	2.7	0.0064	0.9936
sys-interrupt-rate	mean	578.2702	0.4862	0.5138
sys-interrupt-rate	10%(max)	69.91	1.0	0.0
sys-interrupt-rate	90%(max)	629.19	0.0788	0.9212
disk-io-time	mean	0.0001	0.4015	0.5985
disk-io-time	10%(max)	0.0	0.4015	0.5985
disk-io-time	90%(max)	0.0004	0.0172	0.9828

Crosstable Analysis Based on Mean Threshold

	x > Mean	x < Mean	Total
load-15m	25368	45752	71120
memory_used_pct	30095	41025	71120
cpu-user	33332	37788	71120
cpu-system	34510	36610	71120
sys-thermal	22807	48313	71120
sys-interrupt-rate	34577	36543	71120
disk-io-time	28553	42567	71120

Conditional Probability Analysis	
Condition	Probability
P(load-15m > (mean) memory_used_pct > (mean))	0.1559
P(load-15m < (mean) memory_used_pct > (mean))	0.2673
P(load-15m > 90%(max) memory_used_pct > 90%(max))	0.004
P(load-15m < 10%(max) memory_used_pct > 90%(max))	0.07
P(memory_used_pct > 90%(max) load-15m < 10%(max))	0.07
P(load-15m > (mean) cpu-user > (mean))	0.1676
P(load-15m < (mean) cpu-user > (mean))	0.3011
P(load-15m > 90%(max) cpu-user > 90%(max))	0.0011
P(load-15m < 10%(max) cpu-user > 90%(max))	0.0156
P(cpu-user > 90%(max) load-15m < 10%(max))	0.0156
P(load-15m > (mean) cpu-system > (mean))	0.1737
P(load-15m < (mean) cpu-system > (mean))	0.3115
P(load-15m > 90%(max) cpu-system > 90%(max))	0.0012
P(load-15m < 10%(max) cpu-system > 90%(max))	0.0228
P(cpu-system > 90%(max) load-15m < 10%(max))	0.0228
P(load-15m > (mean) sys-thermal > (mean))	0.1125
P(load-15m < (mean) sys-thermal > (mean))	0.2082
P(load-15m < 10%(max) sys-thermal < 10%(max))	0.3646
P(load-15m < 10%(max) sys-thermal > 90%(max))	0.0035
P(sys-thermal < 10%(max) load-15m > 90%(max))	0.0209
P(load-15m > 90%(max) sys-thermal < 10%(max))	0.0209
P(sys-thermal > 90%(max) load-15m < 10%(max))	0.0035
P(load-15m > (mean) sys-interrupt-rate > (mean))	0.1744
P(load-15m < (mean) sys-interrupt-rate > (mean))	0.3118
P(load-15m > 90%(max) sys-interrupt-rate > 90%(max))	0.0024
P(load-15m < 10%(max) sys-interrupt-rate > 90%(max))	0.0417
P(sys-interrupt-rate > 90%(max) load-15m < 10%(max))	0.0417
P(load-15m > (mean) disk-io-time > (mean))	0.1422
P(load-15m < (mean) disk-io-time > (mean))	0.2593
P(load-15m < 10%(max) disk-io-time < 10%(max))	0.3226
P(load-15m < 10%(max) disk-io-time > 90%(max))	0.008
P(disk-io-time < 10%(max) load-15m > 90%(max))	0.0187
P(load-15m > 90%(max) disk-io-time < 10%(max))	0.0187
P(disk-io-time > 90%(max) load-15m < 10%(max))	0.008
P(memory_used_pct > (mean) cpu-user > (mean))	0.2386
P(memory_used_pct < (mean) cpu-user > (mean))	0.23
P(memory_used_pct > 90%(max) cpu-user > 90%(max))	0.0059
P(memory_used_pct > (mean) cpu-system > (mean))	0.2389
P(memory_used_pct < (mean) cpu-system > (mean))	0.2463
P(memory_used_pct > 90%(max) cpu-system > 90%(max))	0.0081
P(memory_used_pct > (mean) sys-thermal > (mean))	0.1183
P(memory_used_pct < (mean) sys-thermal > (mean))	0.2024
P(sys-thermal < 10%(max) memory_used_pct > 90%(max))	0.0984
P(memory_used_pct > 90%(max) sys-thermal < 10%(max))	0.0984
P(memory_used_pct > (mean) sys-interrupt-rate > (mean))	0.2855
P(memory_used_pct < (mean) sys-interrupt-rate > (mean))	0.2007
P(memory_used_pct > 90%(max) sys-interrupt-rate > 90%(max))	0.0169
P(memory_used_pct > (mean) disk-io-time > (mean))	0.1695
P(memory_used_pct < (mean) disk-io-time > (mean))	0.2319
P(memory_used_pct > 90%(max) disk-io-time > 90%(max))	0.0031
P(disk-io-time < 10%(max) memory_used_pct > 90%(max))	0.0819
P(memory_used_pct > 90%(max) disk-io-time < 10%(max))	0.0819
P(cpu-user > (mean) cpu-system > (mean))	0.2601
P(cpu-user < (mean) cpu-system > (mean))	0.2251
P(cpu-user > 90%(max) cpu-system > 90%(max))	0.0034
P(cpu-user > (mean) sys-thermal > (mean))	0.1415
P(cpu-user < (mean) sys-thermal > (mean))	0.1791
P(sys-thermal < 10%(max) cpu-user > 90%(max))	0.0209
P(cpu-user > 90%(max) sys-thermal < 10%(max))	0.0209
P(cpu-user > (mean) sys-interrupt-rate > (mean))	0.297
P(cpu-user < (mean) sys-interrupt-rate > (mean))	0.1892
P(cpu-user > 90%(max) sys-interrupt-rate > 90%(max))	0.0069
P(cpu-user > (mean) disk-io-time > (mean))	0.1929
P(cpu-user < (mean) disk-io-time > (mean))	0.2086
P(disk-io-time < 10%(max) cpu-user > 90%(max))	0.0167
P(cpu-user > 90%(max) disk-io-time < 10%(max))	0.0167
P(cpu-system > (mean) sys-thermal > (mean))	0.1489
P(cpu-system < (mean) sys-thermal > (mean))	0.1718
P(sys-thermal < 10%(max) cpu-system > 90%(max))	0.0304
P(cpu-system > 90%(max) sys-thermal < 10%(max))	0.0304
P(cpu-system > (mean) sys-interrupt-rate > (mean))	0.3039
P(cpu-system < (mean) sys-interrupt-rate > (mean))	0.1823
P(cpu-system > 90%(max) sys-interrupt-rate > 90%(max))	0.0109
P(cpu-system > (mean) disk-io-time > (mean))	0.1972
P(cpu-system < (mean) disk-io-time > (mean))	0.2043
P(disk-io-time < 10%(max) cpu-system > 90%(max))	0.0258
P(cpu-system > 90%(max) disk-io-time < 10%(max))	0.0258
P(sys-thermal > (mean) sys-interrupt-rate > (mean))	0.1488
P(sys-thermal < (mean) sys-interrupt-rate > (mean))	0.3373
P(sys-thermal < 10%(max) sys-interrupt-rate > 90%(max))	0.0559
P(sys-interrupt-rate > 90%(max) sys-thermal < 10%(max))	0.0559
P(sys-thermal > (mean) disk-io-time > (mean))	0.1303
P(sys-thermal < (mean) disk-io-time > (mean))	0.2712
P(sys-thermal < 10%(max) disk-io-time < 10%(max))	0.4079
P(sys-thermal < 10%(max) disk-io-time > 90%(max))	0.011
P(disk-io-time < 10%(max) sys-thermal > 90%(max))	0.0037
P(sys-thermal > 90%(max) disk-io-time < 10%(max))	0.0037
P(disk-io-time > 90%(max) sys-thermal < 10%(max))	0.011
P(sys-interrupt-rate > (mean) disk-io-time > (mean))	0.2074
P(sys-interrupt-rate < (mean) disk-io-time > (mean))	0.1941
P(sys-interrupt-rate > 90%(max) disk-io-time > 90%(max))	0.0018
P(disk-io-time < 10%(max) sys-interrupt-rate > 90%(max))	0.0437
P(sys-interrupt-rate > 90%(max) disk-io-time < 10%(max))	0.0437