

Threshold-based Probability Estimation

Measurement	Threshold	Threshold_Value	Probability_Larger	Probability_Smaller
load-15m	mean	5.9614	0.4944	0.5056
load-15m	10%(max)	2.3	0.6345	0.3655
load-15m	90%(max)	20.7	0.0151	0.9849
memory_used_pct	mean	11.7783	0.4047	0.5953
memory_used_pct	10%(max)	1.9727	1.0	0.0
memory_used_pct	90%(max)	17.7543	0.0011	0.9989
cpu-user	mean	0.031	0.3731	0.6269
cpu-user	10%(max)	0.0063	1.0	0.0
cpu-user	90%(max)	0.0563	0.0069	0.9931
cpu-system	mean	0.0231	0.3327	0.6673
cpu-system	10%(max)	0.0049	1.0	0.0
cpu-system	90%(max)	0.0437	0.0192	0.9808
sys-thermal	mean	0.8561	0.5631	0.4369
sys-thermal	10%(max)	0.305	0.5632	0.4368
sys-thermal	90%(max)	2.745	0.0265	0.9735
sys-interrupt-rate	mean	1262.4174	0.4201	0.5799
sys-interrupt-rate	10%(max)	154.69	1.0	0.0
sys-interrupt-rate	90%(max)	1392.21	0.0425	0.9575
disk-io-time	mean	0.0004	0.4913	0.5087
disk-io-time	10%(max)	0.0001	0.7463	0.2537
disk-io-time	90%(max)	0.0011	0.0146	0.9854

## Crosstable Analysis Based on Mean Threshold

	x > Mean	x < Mean	Total
load-15m	33723	34488	68211
memory_used_pct	27607	40604	68211
cpu-user	25450	42761	68211
cpu-system	22692	45519	68211
sys-thermal	38411	29800	68211
sys-interrupt-rate	28658	39553	68211
disk-io-time	33515	34696	68211

Conditional Probability Analysis

Condition	Probability
P(load-15m > (mean)   memory_used_pct > (mean))	0.3218
P(load-15m < (mean)   memory_used_pct > (mean))	0.0829
P(load-15m > (mean)   cpu-user > (mean))	0.2534
P(load-15m < (mean)   cpu-user > (mean))	0.1197
P(load-15m > (mean)   cpu-system > (mean))	0.2315
P(load-15m < (mean)   cpu-system > (mean))	0.1012
P(load-15m < 10%(max)   cpu-system > 90%(max))	0.0013
P(cpu-system > 90%(max)   load-15m < 10%(max))	0.0013
P(load-15m > (mean)   sys-thermal > (mean))	0.2785
P(load-15m < (mean)   sys-thermal > (mean))	0.2846
P(load-15m < 10%(max)   sys-thermal < 10%(max))	0.1597
P(load-15m < 10%(max)   sys-thermal > 90%(max))	0.0099
P(sys-thermal < 10%(max)   load-15m > 90%(max))	0.0065
P(load-15m > 90%(max)   sys-thermal < 10%(max))	0.0065
P(sys-thermal > 90%(max)   load-15m < 10%(max))	0.0099
P(load-15m > (mean)   sys-interrupt-rate > (mean))	0.269
P(load-15m < (mean)   sys-interrupt-rate > (mean))	0.1511
P(load-15m > 90%(max)   sys-interrupt-rate > 90%(max))	0.0014
P(load-15m < 10%(max)   sys-interrupt-rate > 90%(max))	0.003
P(sys-interrupt-rate > 90%(max)   load-15m < 10%(max))	0.003
P(load-15m > (mean)   disk-io-time > (mean))	0.2672
P(load-15m < (mean)   disk-io-time > (mean))	0.2242
P(load-15m < 10%(max)   disk-io-time < 10%(max))	0.1202
P(load-15m < 10%(max)   disk-io-time > 90%(max))	0.0012
P(disk-io-time < 10%(max)   load-15m > 90%(max))	0.0023
P(load-15m > 90%(max)   disk-io-time < 10%(max))	0.0023
P(disk-io-time > 90%(max)   load-15m < 10%(max))	0.0012
P(memory_used_pct > (mean)   cpu-user > (mean))	0.2776
P(memory_used_pct < (mean)   cpu-user > (mean))	0.0956
P(memory_used_pct > (mean)   cpu-system > (mean))	0.2572
P(memory_used_pct < (mean)   cpu-system > (mean))	0.0755
P(memory_used_pct > (mean)   sys-thermal > (mean))	0.2287
P(memory_used_pct < (mean)   sys-thermal > (mean))	0.3344
P(memory_used_pct > (mean)   sys-interrupt-rate > (mean))	0.2873
P(memory_used_pct < (mean)   sys-interrupt-rate > (mean))	0.1329
P(memory_used_pct > (mean)   disk-io-time > (mean))	0.251
P(memory_used_pct < (mean)   disk-io-time > (mean))	0.2404
P(cpu-user > (mean)   cpu-system > (mean))	0.2389
P(cpu-user < (mean)   cpu-system > (mean))	0.0937
P(cpu-user > 90%(max)   cpu-system > 90%(max))	0.0031
P(cpu-user > (mean)   sys-thermal > (mean))	0.209
P(cpu-user < (mean)   sys-thermal > (mean))	0.3541
P(sys-thermal < 10%(max)   cpu-user > 90%(max))	0.0031
P(cpu-user > 90%(max)   sys-thermal < 10%(max))	0.0031
P(cpu-user > (mean)   sys-interrupt-rate > (mean))	0.2812
P(cpu-user < (mean)   sys-interrupt-rate > (mean))	0.1389
P(cpu-user > 90%(max)   sys-interrupt-rate > 90%(max))	0.0038
P(cpu-user > (mean)   disk-io-time > (mean))	0.234
P(cpu-user < (mean)   disk-io-time > (mean))	0.2574
P(cpu-system > (mean)   sys-thermal > (mean))	0.1869
P(cpu-system < (mean)   sys-thermal > (mean))	0.3762
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))	0.2688
P(cpu-system < (mean)   sys-interrupt-rate > (mean))	0.1514
P(cpu-system > 90%(max)   sys-interrupt-rate > 90%(max))	0.0119
P(cpu-system > (mean)   disk-io-time > (mean))	0.2077
P(cpu-system < (mean)   disk-io-time > (mean))	0.2837
P(cpu-system > 90%(max)   disk-io-time > 90%(max))	0.0018
P(sys-thermal > (mean)   sys-interrupt-rate > (mean))	0.2374
P(sys-thermal < (mean)   sys-interrupt-rate > (mean))	0.1828
P(sys-thermal > 90%(max)   sys-interrupt-rate > 90%(max))	0.0011
P(sys-thermal < 10%(max)   sys-interrupt-rate > 90%(max))	0.0186
P(sys-interrupt-rate > 90%(max)   sys-thermal < 10%(max))	0.0186
P(sys-thermal > (mean)   disk-io-time > (mean))	0.2748
P(sys-thermal < (mean)   disk-io-time > (mean))	0.2166
P(sys-thermal < 10%(max)   disk-io-time < 10%(max))	0.1089
P(sys-thermal < 10%(max)   disk-io-time > 90%(max))	0.0064
P(disk-io-time < 10%(max)   sys-thermal > 90%(max))	0.0074
P(sys-thermal > 90%(max)   disk-io-time < 10%(max))	0.0074
P(disk-io-time > 90%(max)   sys-thermal < 10%(max))	0.0064
P(sys-interrupt-rate > (mean)   disk-io-time > (mean))	0.2738
P(sys-interrupt-rate < (mean)   disk-io-time > (mean))	0.2176
P(sys-interrupt-rate > 90%(max)   disk-io-time > 90%(max))	0.0042
P(disk-io-time < 10%(max)   sys-interrupt-rate > 90%(max))	0.0014
P(sys-interrupt-rate > 90%(max)   disk-io-time < 10%(max))	0.0014