



Assignment 3.1:

Submit by Day 7 of the learning week.

Instructions

In a nuclear power plant, there is an alarm that senses when a temperature gauge exceeds a given threshold. The gauge measures the temperature of the core. Consider the Boolean variables 0 or 1 for corresponding nodes A(alarm sounds), FA(alarm is faulty) and FG (gauge is faulty). Also consider the multivalued sensor nodes G(gauge reading) and T(core temperature).

Draw a Bayesian network for the alarm system. **Justify your network in detail** by explaining the connections between the nodes.

FG=1 implies gauge is faulty [30 points]

Hints: Categorize (sensor nodes versus Boolean variable nodes)

Can abnormal temperatures cause the gauge to become faulty?

Project Deliverables and Format:

Submit as a single file: Word or PDF. If you take pictures with a phone or scan into PDF, use large font (12 point and up) and high quality. Unreadable cluttered submissions with small font sizes will not be graded.