

## Lecture Graphical Models

[https://ml01.zrz.tu-berlin.de/wiki/Main/SS09\\_GraphicalModels](https://ml01.zrz.tu-berlin.de/wiki/Main/SS09_GraphicalModels)

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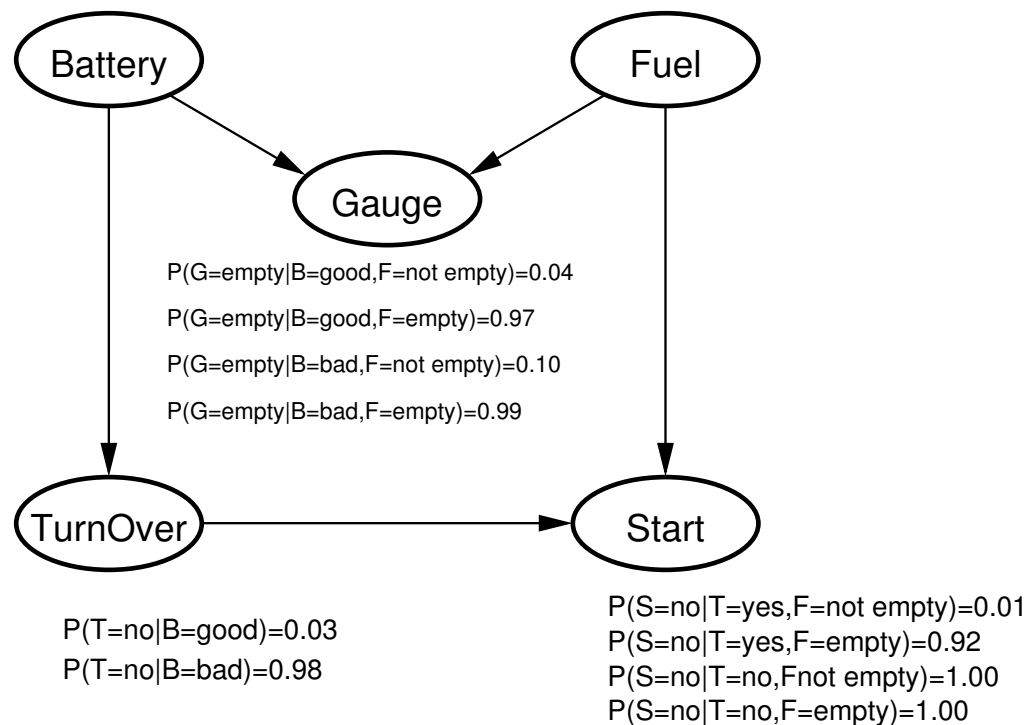
# Sheet 2

Due: 5 May 2009

1. Consider the Bayesian network of binary random variables given below, which concerns the probability of a car starting.

$$P(B=\text{bad})=0.02$$

$$P(F=\text{empty})=0.05$$



Calculate  $P(\text{Fuel} = \text{empty} | \text{Start} = \text{no})$ , the probability of the fuel tank being empty conditioned on the observation that the car does not start. Do this calculation by hand, i.e., do not use or create a computer program to do this.

**2.** Take a look at the JavaBayes applet at <http://www.cs.cmu.edu/~javabayes/Home/>. Set up a Bayesian network for the example of Exercise 1. Condition on the evidence and verify your calculation from above.