

# Mini-Exam

## MAA-C3001 Statistical and Stochastic Methods in Engineering

20.10.2016

Answers may be given in en, fi, se, dk, de, fr

### 1 Spatial correlation (0.5 pt)

What is spatial autocorrelation, and what is meant by positive and negative spatial autocorrelation?

### 2 Bayesian networks (2.5 pts)

- What are probabilistic graphical models? (0.5p)
- What are the benefits for engineering decision making applicable to both probability trees and Bayesian Networks? (1p)
- In which ways do Bayesian Networks perform better than probability trees? (0.5p)
- What are the main drawbacks/limitations of Bayesian Networks? (0.5p)

### 3 Stochastic processes (1 pt)

What does it mean when a stochastic process is *stationary*? *Homogeneous*? *Isotropic*?

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#### Mini-exam and course grading:

- points from the mini-exam (above, max 4) are added to
- points from the exercises: 0 - 2 bonus points for 50% - 100% of the exercises, linearly. Minimum 50% is required
- The yes/no graded exercises count for 0% / 100%
- 1-6 are passing grades, both for mini-exam and course.