inf534 - Probabilistic Modelling II

Module label: Probabilistic Modelling II  
Module code: inf534  
Credit points: 3.0 KP  
Workload: 90 h  

Used in course of study:  
- Master’s Programme Business Informatics > Bereichswahlmodule  
- Master’s Programme Computing Science > Angewandte Informatik  
- Master’s Programme Embedded Systems and Microrobotics > Akzentsetzungsmodelle

Contact person:
Module responsibility  
- Claus Möbus  

Authorized examiners  
- Claus Möbus  

Entry requirements:
Probabilistic models are generated with special tools (e.g. BUGS, JAGS, STAN) or domain specific programming languages (WebPPL, PyMC3, …, etc.). If they mimic cognitive processes of humans (e.g. pilots, drivers) or animals they could be used as cooperative assistance systems in technical or financial systems like cars, robots, or recommenders. In this part of the seminar we read, present, and discuss recent research papers.

Professional competence:  
The students:
- learn to connect problem- with model classes to come up with practical solutions

Methodological competence:  
The students:
- acquire advanced skills in the design, implementation, and identification of probabilistic models with Bayesian methods  
- acquire knowledge about alternative machine learning methods

Social competence:  
The students:  
- learn to present and discuss probabilistic theories, methods, and models

Self-competence:  
The students:
- reflect and evaluate chances and limitations of probabilistic approaches  
- learn to deliberate on machine-learning alternatives

Module contents:  
Theories, methods, and examples of Bayesian models with practical applications

Reader’s advisory:  
Recent publications

Links:  
http://www.uni-oldenburg.de/en/computingscience/lcs/probabilistic-programming/

Language of instruction:  
German

Duration (semesters):  
1 Semester

Module frequency:  
halbjährlich

Module capacity:  
unlimited

Reference text:  
Associated with the module:  
- inf533 Probabilistische Modellierung I

Modullevel:  
AS (Akzentsetzung / Accentuation)

Modulart:  
je nach Studiengang Pflicht oder Wahlpflicht
<table>
<thead>
<tr>
<th>Lern-Lehrform / Type of program</th>
<th>Basic programming skills</th>
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<tbody>
<tr>
<td>Vorkenntnisse / Previous knowledge</td>
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<tr>
<td>Examination Type of examination</td>
<td>Final exam of module seminar talk, reflective written summary</td>
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<td>Time of examination</td>
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<td>Course type</td>
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<td>Frequency</td>
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<td>Workload attendance</td>
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