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 > Akzentsetzungsmodul
- Master's Programme Engineering of Socio-Technical Systems > Embedded Brain Computer Interaction

Contact person:
- Module responsibility:
  - Claus Möbus
  - Die im Modul Lehrenden
- Authorized examiners:
  - Claus Möbus
  - Die im Modul Lehrenden

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
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<thead>
<tr>
<th><strong>Modullevel</strong></th>
<th>AS (Akzentsetzung / Accentuation)</th>
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<tr>
<td><strong>Modulart</strong></td>
<td>je nach Studiengang Pflicht oder Wahlpflicht</td>
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<td><strong>Lern-/Lehrform / Type of program</strong></td>
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<td><strong>Vorkenntnisse / Previous knowledge</strong></td>
<td>Basic programming skills</td>
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<td>Final exam of module</td>
<td>Seminar</td>
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<tr>
<td><strong>Frequency</strong></td>
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<td><strong>Workload attendance</strong></td>
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