Summary
Knowledge-intensive Case-Based Reasoning

Kerstin Bach
October 24, 2022
Background

1. A. Aamodt and E. Plaza, 1994: *Case-based reasoning; Foundational issues, methodological variations, and system approaches*. AI Communications, 7(1), pgs. 39-59.

2. Chapters 2, 3, 6, and 8 in Richter & Weber’s *Case-Based Reasoning Textbook*

4R Cycle

- Retrieve
- Reuse
- Revise
- Retain
Knowledge Containers

**Similarity measures**
The retrieval of similar cases is based upon the use of similarity functions (or measures) to compute the distance or similarity of two cases.

**Case base**
The systems experience is stored as cases within the case base which can be seen as a special form of a data base.

**Vocabulary**
The cases themselves, the similarity measures and the adaptation knowledge are composed upon a vocabulary that contains the objects of interests (terms, attributes, concepts).

**Adaptation knowledge**
Adaptation knowledge is used whenever a retrieved case’s solution has to be adapted to be suitable to solve the presented problem. An example for this kind of knowledge is given by adaptation rules like “If X is not available use Y instead.”
Distribution of Knowledge
How to read papers

- **Context of the paper**: Motivation and group or person who’s presenting the work
- **Goal of the presented research**: What is the goal / motivation of work?
- **Methodology**: scientific and / or technical approach that is presented
- **Related work**: how do others address the same/similar problem
- **Method**: Design, Implementation and Experiments
- **Evaluation**
Introduction


Pensum Papers


Example Question

- In his paper, David Aha discusses successes and failures of CBR ventures. Present 1-2 successful approaches as well as reasons he identified for failure.
Exams will take place in room 254 (Gamle Fysikk), aka Kerstin’s office, on November 28, 2023

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<tr>
<th>Time</th>
<th>Name</th>
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<tbody>
<tr>
<td>10:00 – 10:30</td>
<td>Thomas</td>
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<tr>
<td>10:30 – 11:00</td>
<td>Kristin</td>
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<tr>
<td>11:00 – 11:30</td>
<td>Marte</td>
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<td>11:30 – 12:00</td>
<td>Mathias</td>
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