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Refereed Article

Makoto Haraguchi, Yoshiaki Okubo, and Tokuyasu Kakuta:

A Logical Foundation of Metaphoric Search Based on Abstraction Approach

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Abstract: *This paper presents a logical foundation of metaphoric search problem of looking for objects that can explain a given goal just like its typical instance, based on a concept graph representation. To determine what is similar to the instance under the presence of goal, we first form an abstract concept graph obtained by abstracting an explanation of the goal from the instance. Then, an object similar to the typical instance is required not only to satisfy the goal but also to be another instance of the abstract concept graph. Furthermore, we observe that generalization is also needed to obtain a non-trivial or useful abstraction and similarity based on it. So, we present an experimental system performing both abstraction and generalization to find a meaningful similarity from the viewpoint of goal.*

Publication and review history

This work was first presented at the Machine Intelligence 17 Workshop, held on July 19-21, 2000 at Bury St Edmunds, Suffolk, UK. Attendance at this workshop was based on invitations. Speakers at the workshop were invited to submit their articles for consideration in the forthcoming workshop volume. The subsequent publication and review history for the present article was as follows.

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5. Revised version appears in Electronic Transactions on Artificial Intellligence, Volume 4 (2000), section B, pages 53–81. The section and the annual volume are made permanently available at
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6. Paper editions of the ETAI issue and the ETAI volume containing this artice *republished* by the Royal Swedish Academy of Sciences.

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