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Refereed Article

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HypothesisCreator: Concepts for Accelerating the Computational Knowledge Discovery Process

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Abstract:

We summarize and discuss the work accomplished through the HypothesisCreator *($\mathcal{HC}$) project, an ongoing effort whose aim is to develop systematic methods to accelerate the computational knowledge discovery process.*

A novel approach to describe the knowledge discovery process, focusing on a generalized form of attribute called view, *is presented. It is observed that the process of knowledge discovery can, in fact, be modeled as the design, generation, use, and evaluation of views, asserting that views are the fundamental building blocks in the discovery process. Also, we note that the trial-and-error cycle inherent in any knowledge discovery process, can be formulated as the composing and decomposing of views. To assist this cycle, a programming language called VML (View Modeling Language) was designed, providing facilities for this purpose. Following this* view oriented *perspective, we describe our approach to the problem of characterizing N-terminal protein sorting signals in which we have obtained significant results.*

Publication and review history

This work was first presented at the Machine Intelligence 18 Workshop, held on September 19-21, 2001 at the University of York, 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.

1. First versions *published* by Linköping University Electronic Press on in August - October, 2001 and permanently available at
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3. Revised version *accepted* on 4.12.2001.
4. Revised version *published* by Linköping University Electronic Press on 28.2.2002 and permanently available at the same URL as mentioned above.
5. Revised version appears in Electronic Transactions on Artificial Intellligence, Volume 5 (2001), section B, pages 73–83. 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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