

# NETL: A System for Representing and Using Real-World Knowledge (Artificial Intelligence)



Consider for a moment the layers of structure and meaning that are attached to concepts like lawsuit, birthday party, fire, mother, walrus, cabbage, or king.... If I tell you that a house burned down, and that the fire started at a child's birthday party, you will think immediately of the candles on the cake and perhaps of the many paper decorations. You will not, in all probability, find yourself thinking about playing pin-the-tail-on-the-donkey or about the color of the cake's icing or about the fact that birthdays come once a year. These concepts are there when you need them, but they do not seem to slow down the search for a link between fires and birthday parties. The human mind can do many remarkable things. One of the most remarkable is its ability to store an enormous quantity and variety of knowledge and to locate and retrieve whatever part of it is relevant in a particular context quickly and in most cases almost without effort. If we are ever to create an artificial intelligence with human-like abilities, Fahlman writes, we will have to endow it with a comparable knowledge-handling facility; current knowledge-base systems fall far short of this goal. This report describes an approach to the problem of representing and using real-world knowledge in a computer. The system developed by Fahlman and presented in this book consists of two more-or-less independent parts. The first is the system's parallel network memory scheme: Knowledge is stored as a pattern of interconnections of very simple parallel processing elements: node units that can store a dozen or so distinct marker-bits, and link units that can propagate those markers from node to node, in parallel through the network. Using these marker-bit movements, the parallel network system can perform searches and many common deductions very quickly. The second (and more traditional) part of the

knowledge-base system presented here is NETL, a vocabulary of conventions and processing algorithms in some sense, a language for representing various kinds of knowledge as nodes and links in the network.... NETL incorporates a number of representational techniques new ideas and new combinations of old ideas-which allow it to represent certain real-world concepts more precisely and more efficiently than earlier systems.... NETL has been designed to operate efficiently on the parallel network machine described above, and to exploit this machine's special abilities. Most of the ideas in NETL are applicable to knowledge-base systems on serial machines as well.

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knowledge level Artificial Intelligence, 18 (1) (1982), pp. **NETL, a system for representing and using real-world knowledge** NETL: A system for representing and using real-world knowledge, M. I. T. Press, Cambridge, Mass., 1987. [Fe90J , Artificial Intelligence , Its scope and **Operations Research and Artificial Intelligence - Google Books Result** Most AI systems model and represent natural concepts and categories using . These relations are represented using a .. (16) Fahlman, S. E., (1979), NETL: A System for Represent ing and Using Real-World Knowledge (Cambridge, MA: **Structured connectionist models of semantic networks - ScienceDirect** NETL, a system for representing and using real-world knowledge / Scott E. Subjects, Artificial intelligence -- Data processing. NETL (Computer system) **NETL, a System for Representing and Using Real-world Knowledge Proceedings of the Ninth International Joint Conference on - Google Books Result** Some AI application development tools implemented with LISP TOOL IMPLEMENTATION NETL: A system for representing and using real world knowledge. **Artificial Intelligence in Design 94 - Google Books Result** Both NETL and Thistle use a local representation for their knowledge: each .. Fahlman, S. E. NETL: A system for representing and using real-world knowledge. **Structured Knowledge Representation in AI** Thesis Progress Report: A System for Representing and Using Real-World Knowledge on The knowledge is stored in the form of a net of simple parallel processing elements, which allow certain Artificial Intelligence meets natural stupidity. **My CV - Carnegie Mellon School of Computer Science** Within SCS, my primary affiliations are with the Language Technologies Institute As a researcher, I am primarily interested in Artificial Intelligence and its applications. a practical system that can represent a large body of real-world knowledge This work is based in part on the NETL system that I developed for my Ph.D. **A System for Representing and Using Real-World Knowledge** A conceptual model is a representation of a system, made of the composition of concepts which Conceptual models are often abstractions of things in the real world whether physical or social. systems and knowledge-based systems here the analysts are concerned to represent expert opinion . Place/transition net[edit]. **Knowledge representation in AI - SlideShare** The real world knowledge that is involved here includes common sense time, and the raison d etre of an entire discipline (Artificial Intelligence, AI). so called Semantic Net which can be used for representing ` is a relations (such For example, adding other objects, and using a `part of relation, one could represent the **Massively Parallel Architectures for AI: NETL, Thistle and Boltzmann** NETL, a system for representing and using real-world knowledge. SE Fahlman Connectionist architectures for artificial intelligence. SE Fahlman, GE Hinton. **2. theory - the vertical dimension of category systems - a - IJCAI** NETL, a System for Representing and Using Real-world Knowledge. Front Cover. Scott E. Fahlman. Mit Press, 1979 - Artificial intelligence - 278 pages. **NETL: A System for Representing and Using Real-World Knowledge** Soft computing hybrid intelligent systems have a wide range of applications, such intelligent systems for real-world applications, and the core methodologies of soft Petri nets not only can represent a variety of physical and synthetic process intelligence techniques with Petri nets, including knowledge Petri net, fuzzy **Artificial Intelligence and Integrated Intelligent Information - Google Books Result** Sep 4, 2002 with the problem of high-performance knowledge representation in AI systems. NETL: A System for Representing and Using Real-World **NETL and subsequent path-based inheritance theories** Database design is concerned with representing some aspect of a real world One approach to this problem is the use of artificial intelligence technology to Here, we examine whether a system employs real world knowledge in its .. Information Research, 1(1) Available at: <http://ir/1-2/paper4.html>. **Approaches to Knowledge Representation - IEEE Computer Society** knowledge representation structure which can be con- . NETL: A System for Representing and Using Real-World Knowledge .. than the respectability of AI.