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Innovative applications of computer science

For many years much of the research frontier of computer science as represented, for example, by the activities of artificial intelligence laboratories, seemed preoccupied with esoteric mathematical studies (such as self organizing systems, algebraic theory of machines, or resolution theorem proving), “toy” systems (such as games, puzzles, children’s blocks), or far-out science fiction goals (such as robots for space exploration). Now many of these same laboratories are applying the techniques they have developed in the past to important, short term, real world tasks—and uncovering significant new research problems in the process. By working in new interdisciplinary teams, the computer scientists and the applications specialists have begun to develop an evolving series of novel systems whose potential value to our society is tremendous.

The *Innovative Applications of Computer Science* technical area at the 1975 NCC will consist of four panel sessions, each aimed at discussing interesting computer-based innovations that can produce wide spread practical benefits within a few years. The first three sessions—Innovative Applications of Computers in Education, Medicine, and Automation—describe some dramatic computer-inspired changes that are occurring in those respective disciplines. The fourth session—Knowledge-Based Expert Systems—presents a major methodological viewpoint for much of this work, and some of its broader implications.

