Goals

The genral problem of simulation (or creating) intelligence has been broken into subproblems. These consist of particular traits or capabilities that researchers expect an intelligent system to display. The traits described below have recived the most attention and scope of AI research.

Resoning and problem-solving

Early researchers developed algorithms that imitated step-by-step reasoning that humans use when they solve puzzels or make logical deductions. By the late 1980s and 1990s, methods were developed for dealing with uncertain or incomplete information, employing concepts from probability and economics.

Many of these algorithms are insufficient for solving large reasoning problems because they experience a “combinatorial explosion”: They become exponentioally slower as the problems grow. Even humans rarely use the step-by-step deduction that early AI research could model. They solve most of their problems using fast, intuitive judgments. Accurate and efficient reasoning is an unsolved problem.