AI George Luger

De Eden para ENIAC: Actitudes hacia la inteligencia, el conocimiento y el artificio humano.

Prometheus hablo de los frutos de su transgresión contra el Olimpo: Su propósito no era simplemente robar fuego para la raza humana pero también para iluminar a la humanidad a través del regalo de la inteligencia o nous: La mente racional. Esta inteligencia formo la fundación de toda la tecnología humana y por ultimo todas las civilizaciones humanas. El trabajo de Aeschylus, el clasico dramaturgo griego, ilustro un profunda y antigua alegría del extraordinario poder del conocimiento. La inteligencia artificial, en su preocupación directa por el regalo de Prometheus, ha sido aplicada a todas las tareas de su legado, la medicina, psycologia, biología, astronomía, geología, y muchas áreas del esfuerzo científico que Esquilo podría no haber imaginado.

1.1.3 El desarrollo de la lógica formal:

The steps and strategies of this mechanical solution can be represented as movement through the states of a tree or graph.

1.2.3 Expert Systems:

Expert knowledge is a combination of a theoretical understanding of the problem and a collection of heuristic problem-solving rules that experience has shown to be effective in the domain.

Expert systems are constructed by obtaining this knowledge from an human expert and coding it into a form that computer may apply to similar problems.

Part II:

Introduction to Representation and Search:

The description of AI is: the study of representation and search through which intelligent activity can be enacted on an mechanical device.

The first conference of AI covers these topics.

Automatic computer: If a machine can do a job, then an automatic calculator ca be programmed to simulate the machine.

How can a computer be programmed to use a language: A large part of human thought consists of manipulating words according to rules of reasoning and rules of conjecture?

Neuron nets: How can a set of neurons be arranged to form concepts? Theory of the size of a calculation: If we have an well-defined problem one way to solve it is try all possible answers in order, but this is inefficient, if we like to exclude it, we must have some criterion for efficiency of calculation.

Self-improvement (machine learning): An intelligent machine will carry out activities which may best be described as self-improvement.

Abstractions: We can classify abstractions, to do that and describe machine methods of forming abstractions.

Randomness and creativity: The difference between creative thinking and unimaginative competent thinking lies in the injection of some randomness.

Complexity theory, methodologies for abstraction, language design, and machine learning make up the focus of modern computer science.

Lisp gave AI both a highly expressive language and a medium for interpretation of neuron nets and randomness and creativity.

3.2 Strategies for State Space Search

3.2.1 Data-driven and goal-driven search

In data-driven search, or forward chaining, the problem solve begins with the given facts of the problem and a set of legal moves or rules for changing state.

Search proceeds by applying rules to facts to produce new facts, which are in turn used by the rules to generate more new facts.

In goal-driven, or backward-driven: Take the goal that we want to solve. See what rules or legal moves could be used to generate this goal and determine what conditions must be true to use them. These conditions become the new goals, or subgoals, for the search. Search continues, working backward through successive subgoals until it works back to the facts of the problem.

The preferred strategy is determined by the properties of the problem itself. These include the complexity of the rules, the “shape” of the space state, and the nature and availability of the problem data. All of these vary for different problems.

Goal-driven search is suggested if:

A goal or hypothesis is given in the problem statement or can easily be formulated, In a mathematics theorem prover, for example, the goal is the theorem to be proved.

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