

## CLIPS: An Expert System Tool for Medical Applications

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### Abstract

CLIPS stands for C Language Integrated Production System. It is a programming tool, designed to facilitate the development of software to model human knowledge or expertise for an application, say in a medical diagnosis. CLIPS program is usually used by reason of the flexibility, the expandability and the low cost. The idea of expert systems came from the fact that human experts are able to solve problems at a high level because they exploit knowledge about their area of expertise. So an *expert system* is a computer system that emulates the decision making ability of a human expert. It uses human knowledge to solve problems that would require human intelligence. The first successful and largest area of applications of artificial intelligence was the expert systems. And one of the fields where the expert systems had these successful and largest applications to solving real-world problems was in medicine. Expert systems in medical practice function as decision-support systems and are currently being applied to a number of medical domains, mainly in diagnosis and treatment plan. CLIPS, developed at NASA's Johnson Space Center, 1985 is useful for creating expert systems and other programs where a heuristic solution is easier to implement and maintain than an algorithmic solution. The key features of CLIPS are *Knowledge Representation, Portability, Integration/Extensibility, Interactive Development, Verification/Validation, Fully Documented* and low cost. Some of the medical applications that already apply the CLIPS include those applied for diagnosing eye diseases. Diabetes, skin diseases and those for reducing medical errors.

**Keywords:** CLIPS, Expert systems, Artificial intelligence, Medical, Inference engine, Knowledgebase, User interface

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