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6 A Qualitative Modeling Shell for Process Diagnosis
   Timothy F. Thompson and William J. Clancey
   Removing the knowledge base from a medical diagnosis system, but retaining the diagnostic
   procedure, led to a reusable expert shell. This article evaluates Caster, an application to sand-
   casting.

16 An Expert System for Real-Time Control
   M. Lattimer Wright, Milton W. Green, Gudrun Fiegl, and Perry F. Cross
   Microcomputers can host real-time control expert systems. As Hexscon shows, the key is combing
   the best of conventional and expert-system controllers.

26 The Knowledge-Based Simulation System
   Y. V. Ramana Reddy, Mark S. Fox, Nizwer Husain, and Malcolm McRoberts
   To answer what-if questions, KBS uses artificial intelligence techniques to model complex organi-
   zations, recognize cause-and-effect relations, and generate scenarios automatically.

38 Computer Aids for IC Design
   Talib augmenting existing algorithmic techniques with domain-specific knowledge to automate
   NMOS IC cell layout. Its efficiency rating is within five percent of layouts generated manually.

48 Knowledge-Based Expert Systems: Research in Progress
   The reports from 13 institutions is a representative sample of current research. They are
   organized according to the derivation-generation spectrum of problem definition.

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61 Fillin: A Reusable Tool for Form-Oriented Software
   Steven P. Wartik and Maria H. Penedo
   The reusable tool was designed to improve man-machine interaction. Its tool-oriented environ-
   ment also enforces standards better than any list of rules can.

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