

COGNITIVE SYSTEMS AND THE SOAR ARCHITECTURE

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Full-Day Agenda:

- Cognitive systems and cognitive architecture overview
- History of Soar
- Soar overview
- Basic functionality in Soar
- Soar complex reasoning
- Use of impasses and sub-states in Soar
- Soar's learning mechanisms: Chunking, Reinforcement Learning, Semantic Memory, Episodic Memory

Abstract:

This tutorial provides an introduction to applied cognitive systems in general and the Soar cognitive architecture in particular. The discussion of applied cognitive systems will present the advantages of cognitive architectures over other software paradigms, as well as an introduction to how knowledge-based systems can be designed and engineered within a cognitive architecture. The remainder of the tutorial will focus specifically on the Soar cognitive architecture, including an overview and history of Soar, as well as hands-on exercises to learn how Soar implements knowledge-based decision making, structured and reactive goal management, and various forms of learning.