ACT-R Workshop

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Introduction

ACT-R (Anderson, 2007) is a cognitive architecture that provides a theory and simulation system for human cognitive, perceptual, and motor processes. As a cognitive theory, ACT-R aims to account for the detailed steps of thought and behavior as observed through standard behavioral data (e.g., keystrokes) as well as brain-imaging data (see, e.g., Anderson et al., 2004). As a simulation system, ACT-R can be placed in the role of a virtual human user, performing a simulated (or even real robotic) task and allowing for direct comparison between human and model behavior. To date, ACT-R has been used to produce integrated models (e.g., Lebiere et al., 2008; Salvucci & Taatgen, 2008) for hundreds of tasks ranging from basic experimental tasks (e.g., Taatgen, van Rijn, & Anderson, 2007) to complex applied tasks (e.g., Best & Lebiere, 2006; Byrne & Kirlik, 2005; Trafton et al., 2013); the ACT-R web site [http://act-r.psy.cmu.edu] lists the many publications and researchers associated with the architecture.

This workshop serves to update both the ACT-R community and the modeling community at large about recent advances in the ACT-R architecture. For researchers already using ACT-R, the workshop provides a venue for presenting and hearing about recent changes to and novel applications of the architecture. For others working with (non-ACT-R) computational cognitive models, the workshop provides an overview of application domains addressed by the architecture, and encourages sharing of ideas that benefit ACT-R and other frameworks alike.

This year's ACT-R workshop focuses on the areas of emphasis for this year's Cognitive Science annual meeting: human and artificial agents, social cognition (broadly defined), and interactive systems and contexts. This focus increases the cohesion between the workshop and the main conference, in addition to drawing interest from the co-located AAAI meeting. The focus also helps to highlight novel work in these areas for comparison with similar work being done in related architectures and frameworks.

While this workshop is focused on the ACT-R architecture, it also addresses broader issues of integrated cognition of general interest to the cognitive modeling community. The morning features presentations and discussions of broad architectural themes while the afternoon is devoted to topics and issues more specific to ACT-R. Speakers include members of the ACT-R community as well as others with general interest in cognitive modeling and architectures.

The event is a full-day workshop that includes presentations on recent ACT-R developments from the user community, an update on current developments on the architecture itself, and a panel discussion on the future of ACT-R. The schedule includes ample time for discussion and sharing of ideas among the attendees.

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