Recent Advances in Cognitive Systems

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This volume of *Advances in Cognitive Systems* is the fourth to appear electronically since its launch in 2012. The journal publishes invited essays and refereed articles that are related to the original charter for the field of artificial intelligence: to understand the mind in computational terms and to reproduce every facet of the human intellect. Papers address a broad range of abilities, but focus mainly on high-level aspects of cognition; they also utilize a diverse set of mechanisms in response, but typically take a systems perspective and often incorporate ideas from psychology.

Another of the journal's distinctive features is its association with an annual conference on the same topic. The current volume consists primarily of expanded and revised versions of papers from the *Third Conference on Advances in Cognitive Systems* (*http://www.cogsys.org/conference/2015/*), which was held in Atlanta, Georgia, from May 29 to 31, 2015, about 18 months after the second meeting took place in Maryland. The organizers decided to delay the event by six months to avoid conflicts with other conference deadlines that year.

The Atlanta meeting included 22 oral presentations based on accepted papers, three invited talks by senior researchers, and six evening poster presentations. There were also two affiliated workshops, one on goal reasoning and another on computational models of narrative. The conference attracted over 70 registered attendees, most of them from the United States but also many from other countries. Participants ranged from senior researchers with long track records in cognitive systems to graduate students who had recently joined the paradigm.

The conference received 36 submissions, from which the program chairs – Ashok Goel and Mark Riedl – selected 22 papers, based on reviews from a 51-member program committee, for inclusion in the online proceedings (*http://www.cogsys.org/proceedings/2013/*). After reexamining the submissions and their reviews, we decided that expanded versions of 11 papers would appear as refereed articles in the journal, along with two others that would become invited essays. These underwent substantial revision and copyediting before their publication; as a result, the articles that appear here are not only longer but also more polished.

The volume also includes one essay and two refereed articles that were not associated with the Atlanta meeting. The contents exhibit the diversity associated with the cognitive systems agenda. Articles deal with many topics, including design, game playing, plan understanding, language processing, robotic control, visual search, scientific modeling, and even the cognitive bases of humor. However, they all assume that intelligence is a complex phenomenon that is best understood in terms of system-level interactions among cognitive elements that operate over rich representations. We call on researchers with similar views to contribute to the cognitive systems movement.