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## Encouraging Advances in Cognitive Systems

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This volume of *Advances in Cognitive Systems* continues a long tradition of presenting high-quality articles on computational analyses of intelligence. The journal publishes research in the spirit of the original AI revolution, which focused on high-level cognition, relied on rich, structured representations, emphasized constructing integrated systems, championed heuristic methods, and incorporated key ideas from psychology. The cognitive systems paradigm aims to develop theoretical accounts of the mind and to demonstrate their power in computational artifacts that exhibit complex, human-like behavior across the full range of activities we commonly regard as intelligent.

The publication offers a stage, and the common themes a backdrop, for a diverse cast of researchers who play roles in an engaging scientific drama. Their papers report progress on different facets of cognition within a variety of theoretical paradigms, but they are unified by their concern with mental abilities that make humans unique in the animal kingdom. These innovative efforts build on ideas introduced during AI's inception six decades ago, but they offer novel insights into daunting challenges that remain unsolved and they provide demonstrations that far exceed the accomplishments of their earliest intellectual predecessors.

The current volume includes expanded versions of papers presented at the *Sixth Conference on Advances in Cognitive Systems* (<http://www.cogsys.org/conference/2018/>), which was held at Stanford University in California, from August 18 to 20, 2018, somewhat over a year after the previous meeting in Troy, New York. The Stanford gathering comprised 28 oral presentations, including six invited talks by senior researchers, and 22 poster presentations at two evening receptions. Participation increased from earlier years, with over 80 attendees, most from the United States but also a good sample from other countries. Many of the meeting's participants were PhD-level researchers, but an impressive number of graduate students were also present.

The Stanford conference received 53 submissions that were evaluated by a 36-person program committee and a six-person organizing committee. Based on their feedback, the program chairs – Pat Langley and Dongkyu Choi – selected 22 papers for publication. This volume includes expanded versions of 11 submissions, along with three essays that were associated with the conference; the remaining articles will appear in another volume later this year. The contents cover a variety of topics, including language processing, scene understanding, visual attention, flexible inference, planning, creativity, and learning from instruction. Despite their focus on distinct problems and different theories, the contents share a concern with integrated accounts of high-level processing over rich representations. Taken together, they report encouraging advances in the field of cognitive systems.