

Kartik Talamadupula

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Education

- Ph.D. Computer Science, Arizona State University, May 2013 (Expected).
- B.S. Computer Science (*Summa cum Laude*), Arizona State University, Dec 2007.

Research Experience

Intern Summer 2011
Shalini Kapoor IBM India Research Labs Bangalore

Designed co-operative models for devices in the Internet of Things (IoT) framework to leverage automated planning capabilities and enable autonomous decision making. Applied this work to the traffic management sub-area of the IBM SmartPlanet initiative.

Graduate Research Assistant 2008–Present
Subbarao Kambhampati Arizona State University

Working on devising efficient planning algorithms to enable planning with incomplete domain theories and models. Current work centers around the problem of human-robot teaming, and providing automated planning support in such scenarios.

Undergraduate Research Scholar 2007–2008
Subbarao Kambhampati Arizona State University

Analyzed temporal planning benchmark domains used in previous editions of the International Planning Competition (IPC) in order to prove their actions' lack of expressivity with respect to requiring concurrency for solution plans to succeed, regardless of the problem at hand. Defined and proved that all of these domains were *inherently sequential*, thus leading to an introduction of such domains for the next edition of the planning competition, along with planners that could solve problems requiring concurrency in their solutions.

Teaching Experience

- Auxiliary Teaching Assistant, Artificial Intelligence (CSE 571)
Arizona State University, Fall 2010.

Honors and Awards

- Science Foundation Arizona (SFAz) Fellow, 2008-2010.
- Honorable Mention, Computing Research Association (CRA) Outstanding Undergraduate Student Awards 2008.
- Department of Computer Science Distinguished Undergraduate Senior Award, 2008.

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Journal Articles

Planning for Human-Robot Teaming in Open Worlds; Kartik Talamadupula, J. Benton, Subbarao Kambhampati, Paul Schermerhorn, Matthias Scheutz; In the ACM Transactions on Intelligent Systems and Technology (Special Issue on Applications of Automated Planning); November 2010.

Refereed Conferences

Tell Me When and Why to Do It! Run-time Planner Model Updates via Natural Language Instruction; R. Cantrell, K. Talamadupula, P. Schermerhorn, J. Benton, S. Kambhampati, M. Scheutz; To Appear In the Proceedings of the 7th ACM/IEEE International Conference on Human-Robot Interaction, 2012.

Integrating a Closed World Planner with an Open World Robot; K. Talamadupula, J. Benton, P. Schermerhorn, S. Kambhampati, M. Scheutz; In the Proceedings of the Twenty Fourth AAAI Conference on Artificial Intelligence (AAAI), 2010.

G-value Plateaus: A Challenge for Planning; J. Benton, K. Talamadupula, P. Eyerich, R. Mattmüller, S. Kambhampati; In the Proceedings of the Twentieth International Conference on Automated Planning and Scheduling (ICAPS), 2010.

Finding and Exploiting Goal Opportunities in Real-time during Plan Execution; P. Schermerhorn, J. Benton, M. Scheutz, K. Talamadupula, S. Kambhampati; In the IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS), 2009.

Evaluating Temporal Planning Domains; W. Cushing, D. S. Weld, Mausam, S. Kambhampati, K. Talamadupula; In the Proceedings of the Seventeenth International Conference on Automated Planning and Scheduling (ICAPS), 2007.

Workshop Papers

Planning for Human-Robot Teaming; K. Talamadupula, S. Kambhampati, P. Schermerhorn, J. Benton, M. Scheutz; In the ICAPS 2011 Scheduling and Planning Applications Workshop (SPARK).

Integrating a Closed World Planner with an Open World Robot: A Case Study; K. Talamadupula, J. Benton, P. Schermerhorn, S. Kambhampati, M. Scheutz; In the ICAPS 2009 Workshop of Bridging the Gap between Task and Motion Planning (BTAMP).

Evaluating Temporal Planning Domains; William Cushing, Daniel S. Weld, Mausam, Subbarao Kambhampati, Kartik Talamadupula; In the ICAPS 2007 Workshop on the International Planning Competition: Past, Present and Future.

System Demos and Exhibits

Planning for Agents with Changing Goals; K. Talamadupula, P. Schermerhorn, J. Benton, S. Kambhampati, M. Scheutz; ICAPS 2011 Demonstrations and Exhibits Program. *Placed 3rd for Best Demo.*

Service

- Auxiliary Reviewer: AAAI 2011
- Auxiliary Reviewer: ICAPS 2009