

March, 2017

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### *Research Interests*

- **Human-Aware AI Systems:** Planning and Decision-making for human-in-the-loop AI systems. Human-robot teaming. Proactive decision support. Learnable planning models & Model-Lite Planning. Explicable behavior and Explanations. Human-factors evaluations.
- **Automated Planning (AI):** Plan Synthesis in metric, temporal, partially accessible and stochastic worlds. Heuristics for plan synthesis. Multi-objective optimization for planning. Reasoning with expressive actions. Scheduling. Speedup-learning to assist planners. Constraint Satisfaction and Operations Research Techniques. Applications of planning to automated manufacturing and space autonomy.
- **Social Media Analysis & Information Integration:** Analysis of human-behavior on social-media platforms. Adaptive techniques for query optimization and execution in information integration. Source discovery and source meta-data learning.

### *Education*

**Ph.D.** in Computer Science (1989) *University of Maryland, College Park, USA*

**M.S.** in Computer Science (1985) *University of Maryland, College Park, USA*

**B.TECH.** in Electrical Engineering and Electronics (1983) *Indian Institute of Technology, Madras, India*

### *Professional Experience*

**8/00 - present: Professor**, Department of Computer Science and Engineering, Arizona State University, Tempe

**2/2006 -3/2006: Visiting Researcher**, Australian National University (Sabbatical Visit).

**2/98 -5/98: Visiting Professor**, Dept. of Computer Science and Automation, Indian Institute of Science, Bangalore, India. (Sabbatical Visit)

**11/97 -1/98: Visiting Professor**, Dept. of Computer Science, Indian Institute of Technology, Kharagpur, India. (Sabbatical Visit)

**8/96 -8/00: Associate Professor**, Department of Computer Science and Engineering, Arizona State University, Tempe

**8/91 - 8/96: Assistant Professor**, Department of Computer Science and Engineering, Arizona State University, Tempe

**10/89 - 8/91: Research Associate**, Center for Design Research and Department of Computer Science, Stanford University, Stanford

**6/84 - 8/89: Research Assistant**, Center for Automation Research, Department of Computer Science, University of Maryland, College Park

**6/88 - 8/88: Part-time Instructor**, University College, University of Maryland, College Park

**8/85 - 12/86: Part-time Teaching Assistant**, University College, University of Maryland, College Park

**1/84 - 6/84: Teaching Assistant**, Department of Computer Science, University of Maryland, College Park

**8/83 - 1/84: Research Assistant**, Department of Electrical and Computer Engineering, Carnegie-Mellon University, Pittsburgh

### *Honors & Significant Service*

- President, Association for the Advancement of Artificial Intelligence (AAAI), 2016-18. (President-Elect during 2014-16).
- Fellow, Association for the Advancement of Artificial Intelligence (AAAI), 2004.
- Program Chair, Intl. Joint Conf on AI (IJCAI), 2016 (Trustee, IJCAI, 2013-18).
- Trustee, Partnership for Artificial Intelligence, 2017-.
- National Science Foundation Young Investigator (NYI) award, 1994-1999.
- Influential Paper Award (Honorable Mention), ICAPS 2010 (for a 2000 paper on viewing planning as Constraint Satisfaction with Minh B. Do).
- Selected by ASU CSE students as the Teacher of the Year. 2012.
- Selected by ASU students for 16th Annual ASU Last Lecture Series, 2011 (lectured on "You can't do that HAL! Collateral Lessons from a Computational Quest to Design HAL").
- College of Engineering Teaching Excellence Award, 2002.
- Best Poster Award, World Wide Web Conference, 2010 (for the SourceRank work with Raju Balakrishnan).
- Conference Committee Chair, AAAI 2012-2014.
- Program Co-Chair, National Conference on Artificial Intelligence, 2005.
- Program Co-Chair, Intl. Conference on Planning and Scheduling, 2013.
- IBM Faculty Award, 2004.
- Google Research Grant. 2016; 2013; 2010; 2008.
- National Science Foundation Research Initiation (RIA) award, 1992-1995.
- Track Co-Chair, AI and Web Track, AAAI 2010.
- Elected to AAAI Executive Council, 2009-2012.
- Distinguished Performance Award (Simple Preferences Track for Yochan-ps), International Planning Competition, 2006.
- Researcher of the year award. School of Computing and Informatics. Arizona State University. 2005.
- Invited Speaker, ACAI Summer School on Automated Planning, Freiburg, Germany. 2011.
- Invited Speaker, International Conference on Automated Planning and Scheduling, Trento, Italy. June 2003.

- Program Co-Chair, Intl. Conference on Planning and Scheduling (formerly known as AI Planning Systems Conference), 2000.
- Invited Speaker, Machine Learning summer school. (Canberra, Australia). February 2006.
- Invited Speaker, PLANET summer school on Planning. (Paphos, Cyprus). September 2000.
- Invited Speaker, National Conference on Artificial Intelligence, 1996 (Portland)
- Invited Speaker, 4th Intl. Conference on Knowledge-Based Computer Systems, Mumbai, India. December 2000.
- Nominated for “Outstanding Graduate Mentor Award”--an ASU program for recognizing Graduate Student Mentoring (2010).
- Arizona State University Nominee for NSF Presidential Faculty Fellowship, 1995.
- Nominated three times for ASU CEAS Teaching Excellence Award, 1995, 1998, (2002).
- Samuel N. Alexander A.C.M. Fellowship Grant, 1988 (Awarded by Washington D.C. Chapter of A.C.M. to a Computer Science doctoral student from A.C.M. Mid-Atlantic Region)
- Fellow, Systems Research Center, University of Maryland, 1987
- Institute Merit Certificate and Prize for securing First Rank in 2nd year of B.TECH., Indian Institute of Technology, Madras, India, 1980.
- State Special Merit Scholarship for Rank-holders, A.P., India, 1976-78, 1978-83
- Merit Scholarship, Indian Institute of Technology, Madras, India, 1978-83
- State Board of Education Merit Certificates for securing 11th Rank in state in class XII and 7th Rank in state in class X, A.P., India

### ***Significant Student Honors***

- Students reached Microsoft Imagine Cup National Finals with an entry on human-robot teaming. 2017.
- Nominated for AAMAS 2016 Best Student Paper Award, 2016 (for work with Xin Tian, Hankz Hankui Zhuo)
- IBM Ph.D. Fellowship for Tathagata Chakraborty. 2016-17.
- People’s Choice Award for the Best Demonstration, Intl. Conf. on Planning and Scheduling, 2014 (for Lydia Manikonda, Tathagata Chakraborti and Kartik Talamadupula).
- School of Computing & Informatics Outstanding Masters Student Award to Manish Jha, 2012.
- Best Poster Award, World Wide Web Conference, 2010 (for the SourceRank work with Raju Balakrishnan).
- **Influential Paper Award (Honorable Mention)**, ICAPS 2010 (for a 2000 paper on viewing planning as Constraint Satisfaction with Minh B. Do).
- International Conference on Planning & Scheduling **Best Dissertation Award** for Daniel Bryce; 2009.
- International Conference on Planning & Scheduling **Best Dissertation Award honorable mention** for Menkes van den Briel; 2009.
- Computing Research Association Outstanding Undergraduate Student (honorable mention) to Kartik Talamadupula; 2008

- **Yahoo! Key Scientific Challenges Award to Raju Balakrishnan, 2009**
- International Planning Competition Distinguished Performance Award to J. Benton, 2006.
- School of Computing & Informatics Distinguished Senior Award to Kartik Talamadupula, 2008
- School of Computing & Informatics Outstanding Masters Student Award to Garrett Wolf, 2009.
- School of Computing & Informatics Outstanding Masters Student Award to Hemal Khatri, 2007.
- School of Computing & Informatics Outstanding Masters Student Award to Thomas Hernandez, 2005.
- School of Computing & Informatics Outstanding Ph.D. Student Award to Minh Binh Do, 2005.
- Shortlisted for the best paper award at ICAPS 2006 (Daniel Bryce)
- Shortlisted for the best student paper award at AAAI 2005 (William Cushing and Daniel Bryce)
- Two Science Foundation of Arizona Fellows (Tuan Nguyen, Kartik Talamadupula); two ARCS Foundation Fellows (Daniel Bryce, J. Benton); one Fulton Fellow (Will Cushing), one University Graduate Scholar (Will Cushing).

## ***Full Publication List***

Most of these papers available online at <http://rakaposhi.eas.asu.edu/papers.html>. According to Google Scholar (<http://scholar.google.com/citations?user=y13L07sAAAAJ>), these papers have received 8123 citations, leading to an **h-index** of **46**, and **i-10 index** of **154**.

### ***Journal articles:***

- (1) Tuan Nguyen, Subbarao Kambhampati and Sarath Sreedharan. Robust planning with incomplete domain models. *Artificial Intelligence*. 2017.
- (2) Hankz Hankui Zhuo and Subbarao Kambhampati. Model-Lite Planning: Case-Based vs. Model-Based Approaches. *Artificial Intelligence*. 2017.
- (3) Lydia Manikonda, Tathagata Chakraborty, Kartik Talamadupula & Subbarao Kambhampati. Herding the Crowd: Using Automated Planning for Better Crowdsourced Planning. *Human Computation Journal*. (To appear). 2017
- (4) Raju Balakrishnan and Subbarao Kambhampati Click Efficiency: A Unified Optimal Ranking for Online Ads and Documents. *Journal of Intelligent Information Systems*. 2015.
- (5) Rohit Raghunathan, Sushovan De, Subbarao Kambhampati. Bayes Networks for Supporting Query Processing Over Incomplete Autonomous Databases *Journal of Intelligent Information Systems*. 42(3): 595-618 (2014)
- (6) Raju Balakrishnan, Subbarao Kambhampati, and Manishkumar Jha. Assessing Relevance and Trust of the Deep Web Sources and Results Based on Inter-Source Agreement *ACM Transactions on Web*. Volume 7, Issue 2, May 2013.
- (7) Nan Li, William Cushing, Subbarao Kambhampati and Sungwook Yoon. Learning Probabilistic Hierarchical Task Networks to Capture User Planning Preferences. *ACM Transactions on Intelligent Systems and Technology*. ACM TIST 5(2): 29 (2014)
- (8) Tuan Nguyen, Minh Do, Alfonso Gerevini, Ivan Serina, Biplav Srivastava and Subbarao Kambhampati. Planning with partial preference models *Artificial Intelligence*. Vol 190. Pages 1-31. Oct 2012.
- (9) Ravi Gummadi, Anupam Khulbe, Aravind Kalavagattu, Sanil Salvi, Subbarao Kambhampati. SmartInt: Using Mined Attribute Dependencies to Integrate Fragmented Web Databases *Journal of Intelligent Information Systems*. 2011 (Accepted)
- (10) Xiaoqin Zhan, Sungwook Yoon, and Subbarao Kambhampati and several other authors. An Ensemble Architecture for Learning Complex Problem-Solving Techniques From Demonstration. **ACM Transactions on Intelligent Systems and Technology**. (Accepted). 2011.
- (11) Daniel Bryce, William Cushing and Subbarao Kambhampati. State Agnostic Planning Graphs: Deterministic, Non-Deterministic, and Probabilistic Planning. **Artificial Intelligence**. Volume 175, Issues 3-4, March 2011.
- (12) Kartik Talamadupula, J. Benton, Subbarao Kambhampati, Paul Schermerhorn, and Matthias Scheutz. Planning for Human-Robot Teaming in Open Worlds. **ACM Transactions on Intelligent Systems and Technology**. (Special Issue on Applications of Automated Planning). Vol 1. No. 2. 2010.

- (13) GarrettWolf, Aravind Kalavagattu, Hemal Khatri, Raju Balakrishnan, Bhaumik Chokshi, Jianchun Fan, Yi Chen and Subbarao Kambhampati. Query Processing Over Incomplete Autonomous Databases: Query Rewriting Using Learned Data Dependencies. **VLDB Journal**. 18(5): 1167-1190 (2009). (Special issue on uncertain and probabilistic databases.)
- (14) J. Benton, Minh Do and Subbarao Kambhampati. Anytime Heuristic Search for Partial Satisfaction Planning **Artificial Intelligence Journal**. 173(5-6): 562-592 (2009)
- (15) Menkes van den Briel, Thomas Vossen and Subbarao Kambhampati. Loosely coupled formulations for Automated Planning: An Integer Programming Perspective **Journal of Artificial Intelligence Research**. Volume 31, pages 217-257.
- (16) Daniel Bryce, Subbarao Kambhampati and David E. Smith. Sequential Monte Carlo in Reachability Heuristics for Probabilistic Planning **Artificial Intelligence Journal**. Vol. 172. 2008.
- (17) How to skin a planning graph for fun and profit: A Tutorial on Planning Graph Based Reachability Heuristics. Daniel Bryce and Subbarao Kambhampati. ASU CSE TR-06-007, April 2006. To appear in **AI Magazine** Spring 2007.
- (18) Daniel Bryce, Subbarao Kambhampati and David E. Smith. Planning Graph Heuristics for Belief Space Search **Journal of Artificial Intelligence Research**. Volume 26, pages 35-99. May 2006.
- (19) Menkes van den Briel and Subbarao Kambhampati. Optiplan: A Planning System that Unifies Integerprogramming with Planning Graph. (Engineering Note) JAIR special track on IPC 2004. December 2005.
- (20) Zaiqing Nie, Subbarao Kambhampati and Ullas Nambiar. Effectively mining and using coverage and overlap statistics for data integration. **IEEE Transactions on Knowledge and Data Engineering**. 2005.
- (21) Terry Zimmerman and Subbarao Kambhampati. Using memory to transform search on the planning graph **Journal of Artificial Intelligence Research**. 2005.
- (22) Jianchun Fan and Subbarao Kambhampati. A Snapshot of Public Web Services To appear in SIGMOD Record, March 2005.
- (23) Thomas Hernandez and Subbarao Kambhampati. Integration of Bioinformatic Sources: Current Approaches and Systems. SIGMOD Record, Vol 33, No 3 September 2004.
- (24) S. Kambhampati, E. Lambrecht, U. Nambiar, Z. Nie and G. Senthil. Optimizing Recursive Information Gathering Plans in EMERAC. **Journal of Intelligent Information Systems**. Vol 22, No. 2. February 2004, pp. 119-153.
- (25) Minh B. Do and Subbarao Kambhampati. Sapa: A Multi-Objective Metric Temporal Planner. **Journal of AI Research**, Volume 20, pages 155-194. December 2003.
- (26) Sanchez, R. and Kambhampati, S. (2003) "AltAltp: Online Parallelization of Plans with Heuristic State Search." **Journal of AI Research**, Volume 19, pages 631-657.
- (27) Terry Zimmerman and Subbarao Kambhampati. Learning-assisted automated planning: Looking back, taking stock, going forward. **AI Magazine**. 24(2):73-96. Summer 2003
- (28) XuanLong Nguyen, Subbarao Kambhampati and Romeo Sanchez Nigenda. Planning Graph as the Basis for deriving Heuristics for Plan Synthesis by State Space and CSP Search. **Artificial Intelligence** 135(1-2): 73-123 (2002)

- (29) Minh B. Do and Subbarao Kambhampati. Planning as Constraint Satisfaction: Solving the planning graph by compiling it into CSP. **Artificial Intelligence** 132(2): 151-182 (2001)
- (30) Biplav Srivastava, Subbarao Kambhampati, Binh Minh Do. Planning the Project Management Way: Efficient Planning by Effective Integration of Causal and Resource Reasoning in RealPlan. **Artificial Intelligence** 132(2): 151-182 (2001)
- (31) S. Kambhampati. Planning Graph as a (Dynamic) CSP: Exploiting EBL, DDB and other CSP Search Strategies in Graphplan. **Journal of Artificial Intelligence**. JAIR 12: 1-34 (2000)
- (32) S. Kambhampati. On the relations between intelligent backtracking and explanation-based learning in planning and constraint satisfaction. **Artificial Intelligence**. Vol. 105, No. 1-2. October 1998.
- (33) B. Srivastava and S. Kambhampati. Synthesizing customized planners from specifications. **Journal of Artificial Intelligence Research**. Vol 8. pp 93-128. 1998. 1998.
- (34) S. Kambhampati. Refinement planning as a unifying framework for plan synthesis. **AI Magazine**. 18(2):67-97. Summer. 1997.
- (35) L. Ihrig and S. Kambhampati. Storing and Indexing Plan Derivations through Explanation-based Analysis of Retrieval Failures. **Journal of Artificial Intelligence**. Vol 7. pp 161-198. 1997.
- (36) S. Kambhampati, S. Katukam and Y. Qu. "Failure driven Dynamic Search Control for Partial Order Planners: An Explanation-based approach", **Artificial Intelligence**. 88(1-2):253-315. 1997.
- (37) S. Kambhampati and D.S. Nau, "On the nature and role of modal truth criteria in planning", **Artificial Intelligence**. 82(1-2):129-156. 1996.
- (38) S. Kambhampati, C. Knoblock and Q. Yang. Planning as Refinement Search: A Unified framework for evaluating design tradeoffs in partial order planning. **Artificial Intelligence**. Special issue on Planning and Scheduling. Vol. 76. No. 1-2, September 1995. pp. 167-238.
- (39) S. Kambhampati. Comparative analysis of Partial Order and HTN Planning. **SIGART Bulletin** Special section on Evaluation of Plans, Planners and Planning Agents. Vol. 6, No. 1, January, 1995. pp. 16-25.
- (40) S. Kambhampati, "Multi-Contributor Causal Structures for Planning: A Formalization and Evaluation," **Artificial Intelligence** Vol. 69, No. 1-2, pp. 235-278. 1994.
- (41) S. Kambhampati and S. Kedar, "A Unified Framework for Explanation-Based Generalization of Partially Ordered and Partially Instantiated Plans," ASU CSE-TR-92-008, **Artificial Intelligence**, Vol 67, No. 2, June 1994. pp. 29-70.
- (42) S. Kambhampati, "Exploiting Causal Structure to Control Retrieval and Refitting during Plan Reuse," **Computational Intelligence**, Vol. 10, No. 2, May 1994, pp 212-244.
- (43) S. Kambhampati, M.R. Cutkosky, J.M. Tenenbaum and S.H. Lee, "Integrating General Purpose Planners and Specialized Reasoners: Case Study of a Hybrid Planning Architecture," **IEEE Transactions on Systems, Man and Cybernetics (special issue on Planning, Scheduling and Control)**," Vol 23, No. 6, November 1993. pp 1503-1517.
- (44) S. Kambhampati and J.A. Hendler, "A Validation Structure Based Theory of Plan Modification and Reuse," **Artificial Intelligence**, 55 (2-3), pp. 193-258, June 1992.

- (45) S. Kambhampati and L.S. Davis, "Multiresolution Path Planning for Mobile Robots," **IEEE Journal of Robotics and Automation RA-2(3)**, September 1986, pp. 135-145.

***Commentaries, Reviews and Reports:***

- (46) Subbarao Kambhampati, Craig A. Knoblock: Guest Editors' Introduction: Information Integration on the Web. *IEEE Intelligent Systems* 18(5): 14-15 (2003)
- (47) A. Naryek and S. Kambhampati. Research Issues at the Intersection of Planning and Constraint Programming. *Constraints Journal*. Special Issue on Planning. Vol 8. No. 4. pp. 335-338. October 2003.
- (48) S. Kambhampati and C. Knoblock. Information Integration on the Web: A view from AI and Databases (Report on IWeb-03). *SIGMOD Record*. December 2003.
- (49) B.Srivastava, X. Long, M. Do, U. Nambiar, X. Nie, R. Nigenda, T. Zimmerman and S. Kambhampati. AltAlt: Combining Graphplan and Heuristic State Search B. Srivastava, X. Long, Minh B. Do, U. Nambiar, X. Nie, R. Nigenda, T. Zimmerman and S. Kambhampati *AI Magazine*, 2001.
- (50) S. Kambhampati. "Theoretical Contributions of Artificial Intelligence." Side bar. *IEEE Computer Magazine*. 50th anniversary issue. Fall 1996.
- (51) S. Kambhampati. "Refinement planning: Status and Prospectus" *In Proc. National Conference on AI*, 1996. (Invited)
- (52) S. Kambhampati. "AI Planning: A prospectus on theory and applications" Position Statement. **ACM Computing Surveys**, Symposium on Artificial Intelligence, September 1995.
- (53) G. Olsen, M.R. Cutkosky and S. Kambhampati, "Real Physics for Real Engineers: A Response to "Prolegomena to Any Future Qualitative Physics,"" **Computational Intelligence**, Vol. 8, No. 2, pp. 286-288. September, 1992.
- (54) S. Kambhampati, "Report on the AAAI 1992 Spring Symposium on Computational Considerations in Supporting Incremental Modification and Reuse," **AI Magazine**, Vol. 13, No. 3, pp. 24-25.
- (55) A. Lansky, M. Drummond, S. Kambhampati, E. Pednault and Q. Yang. "Report on the AAAI 1993 Spring Symposium on Foundations of Automatic Planning, the classical approach and beyond," **AI Magazine**, Vol 14, No. 3. pp. 34-35.

***Book Publishing (Edited Proceedings, Book chapters):***

- (56) Subbarao Kambhampati (ed). *Proceedings of the 25th International Joint Conference on Artificial Intelligence*, 2016. (IJCAI 2016)
- (57) Daniel Borrajo, Subbarao Kambhampati, Angelo Oddi, Simone Fratini (Eds.): *Proceedings of the Twenty-Third International Conference on Automated Planning and Scheduling*, ICAPS 2013, Rome, Italy, June 10-14, 2013. AAAI 2013, ISBN 978-1-57735-609-7
- (58) Subbarao Kambhampati and Sungwook Yoon. *Explanation-Based Learning for Planning*. *Encyclopedia of Machine Learning*. Springer-Verlag, New York, NY (Claude Sammut, ed.)
- (59) M. Veloso and S. Kambhampati (eds). *Proceedings of National Conference on Artificial Intelligence*, 2005. (AAAI 2005).



- (60) S. Kambhampati and C. Knoblock. (eds). Proceedings of IJCAI 2003 Workshop on Intelligent Information Integration. 2003.
- (61) S. Kambhampati, C. Knoblock and S. Chien. (eds) Proceedings of AIPS 2002 (International Conference on AI Planning Systems). 2000.
- (62) T. Dean and S. Kambhampati, "Planning and Scheduling," in "*The CRC Handbook of Computer Science and Engineering*," CRC Press. 1997.
- (63) S. Kambhampati, "Supporting Flexible Reuse of Plans, in "*Machine Learning Methods for Planning*," chapter 12, Editor: S. Minton, Morgan Kaufmann, Palo Alto, 1992 (ISBN 1-55860-248-8). pp. 397-434.
- (64) S. Kambhampati (ed), Working Notes of AAAI 1992 Spring Symposium on "Computational Considerations in Supporting Incremental Modification and Reuse," March 25-27, 1992, Stanford University.

### ***Formally Refereed Conference Publications:***

#### ***Conferences with very rigorous review criteria***

**Note: In Computer Science, unlike many other fields, conference papers are rigorously reviewed, with top conferences having low acceptance rates; publications in these conferences are considered archival and comparable to journal papers.**

- (65) Yu Zhang, Sarath Sreedharan, Anagha Kulkarni, Tathagata Chakraborti, Hankz Hankui Zhuo, Subbarao Kambhampati. Plan Explicability and Predictability for Robot Task Planning. ICRA 2017.
- (66) Sailik Sengupta, Satya Gautam Vadlamudi, Subbarao Kambhampati, Adam Doupe, Marthony Taguinod, Ziming Zhao and Gail-Joon Ahn A Game Theoretic Approach in Strategy Generation for Moving Target Defense in Web Applications AAMAS 2017.
- (67) Tathagata Chakraborti, Kartik Talamadupula, Kshitij P. Fadnis, Murray Campbell, Subbarao Kambhampati UbuntuWorld 1.0 LTS - A Platform for Automated Problem Solving & Troubleshooting in the Ubuntu OS AAI/IAAI, 2017
- (68) Xin Tian, Hankz Hankui Zhuo and Subbarao Kambhampati. Discovering Underlying Plans Based on Distributed Representations of Actions. AAMAS 2016 (**Nominated for AAMAS 2016 Best Student Paper Award**)
- (69) Tweeting the Mind and Instagramming the Heart: Exploring Differentiated Content Sharing on Social Media. Lydia Manikonda, Vamsi Meduri & Subbarao Kambhampati ICWSM 2016.
- (70) Tathagata Chakraborti, Sarath Sreedharan, Sailik Sengupta, T. K. Satish Kumar, and Subbarao Kambhampati. Compliant Conditions for Polynomial Time Approximation of Operator Counts Symposium on Combinatorial Search (SOCS), 2016.
- (71) Yu Zhang, Sarath Sreedharan & Subbarao Kambhampati A Formal Analysis of Required Cooperation in Multi-agent Planning ICAPS 2016.
- (72) Tathagata Chakraborti, Yu Zhang, Subbarao Kambhampati. Planning with Resource Conflicts in Human-Robot Cohabitation AAMAS 2016.
- (73) Satya Gautam Vadlamudi, Sailik Sengupta, Subbarao Kambhampati, Marthony Taguinod, Ziming Zhao, Adam Doupi, Gail-Joon Ahn Moving Target Defense For Web Applications Using Bayesian Stackelberg Games AAMAS 2016
- (74) Satya Gautam Vadlamudi & Subbarao Kambhampati A Combinatorial Search Perspective on Diverse Solution Generation AAI 2016
- (75) Tathagata Chakraborti, Gordon Briggs, Kartik Talamadupula, Yu Zhang, Matthias Scheutz, David Smith and Subbarao Kambhampati Planning for Serendipity. IROS 2015
- (76) Yu (Tony) Zhang, Vignesh Narayanan, Tathagata Chakraborty & Subbarao Kambhampati. A Human Factors Analysis of Proactive Assistance in Human-robot Teaming. IROS 2015.
- (77) Manikandan Vijayakumar, Tejas Mallapura Umamaheshwar, Kartik Talamadupula and Subbarao Kambhampati TweetSense: Context Recovery for Orphan Tweets by Exploiting Social Signals in Twitter WebScience 2015.
- (78) Acquiring Planning Knowledge via Crowdsourcing Jie Gao, Hankz Hankui Zhuo, Subbarao Kambhampati and Lei Li. HCOMP 2015

- (79) Vignesh Narayanan, Yu Zhang, Nathaniel Mendoza and Subbarao Kambhampati. Automated Planning for Peer-to-peer Teaming and its Evaluation in Remote Human-Robot Interaction 10th ACM/IEEE Intl. Conf on Human Robot Interaction (HRI), 2015.
- (80) Yilin Wang, Yuheng Hu, Subbarao Kambhampati and Baoxin Li Inferring Sentiment from Web Images with Joint Inference on Visual and Social Cues: A Regulated Matrix Factorization Approach ICWSM 2015
- (81) Yu Zhang, Sarath Sreedharan and Subbarao Kambhampati. Capability Models and their application in Multi-agent planning. AAMAS 2015
- (82) Sushovan De, Yuheng Hu, Yi Chen, and Subbarao Kambhampati. BayesWipe: A Multimodal System for Data Cleaning and Consistent Query Answering on Structured Data IEEE BigData 2014.
- (83) Tuan A. Nguyen, Subbarao Kambhampati: A Heuristic Approach to Planning with Incomplete STRIPS Action Models. ICAPS 2014
- (84) Kartik Talamadupula, Gordon Briggs, Tathagata Chakraborti, Matthias Scheutz, Subbarao Kambhampati: Coordination in human-robot teams using mental modeling and plan recognition. IROS 2014: 2957-2962
- (85) Yu Zhang, Lynne E. Parker, Subbarao Kambhampati: Coalition coordination for tightly coupled multirobot tasks with sensor constraints. ICRA 2014: 1090-1097.
- (86) Yuheng Hu, Lydia Manikonda, Subbarao Kambhampati: What We Instagram: A First Analysis of Instagram Photo Content and User Types. ICWSM 2014
- (87) Lydia Manikonda, Tathagata Chakraborti, Sushovan De, Kartik Talamadupula, Subbarao Kambhampati: AI-MIX: Using Automated Planning to Steer Human Workers Towards Better Crowdsourced Plans. IAAI/AAAI 2014: 3004-3009
- (88) Tuan Nguyen, Subbarao Kambhampati & Minh B. Do. Synthesizing Robust Plans Under Incomplete Domain Models. NIPS 2013.
- (89) Kartik Talamadupula, Gordon Briggs, Matthias Scheutz & Subbarao Kambhampati. Architectural Mechanisms for Handling Human Instructions in Open-World Mixed-Initiative Team Tasks Advances in Cognitive Systems, ACS, 2013.
- (90) Srijith Ravikumar, Kartik Talamadupula, Raju Balakrishnan, Subbarao Kambhampati: RARProp: ranking tweets by exploiting the tweet/user/web ecosystem and inter-tweet agreement. CIKM 2013: 2345-2350
- (91) Hankz Hankui Zhuo, Tuan Nguyen and Subbarao Kambhampati. Refining Incomplete Domain Models through Plan Traces. IJCAI 2013.
- (92) Yuheng Hu, Fei Wang & Subbarao Kambhampati. Listening to the Crowd: Automated Analysis of Live Events via Aggregated Twitter Sentiment. IJCAI 2013.
- (93) Yuheng Hu, Kartik Talamadupula and Subbarao Kambhampati. Dude, srsly?: The Surprisingly Formal Nature of Twitter ICWSM, 2013.
- (94) Hankz Hankui Zhuo, Subbarao Kambhampati. Action Model Acquisition from Noisy Plan Traces. IJCAI 2013.
- (95) Hankz Hankui Zhuo, Subbarao Kambhampati, Tuan Nguyen. Model-Lite Case-Based Planning AAAI 2013.
- (96) Hankz Hankui Zhuo, Qiang Yang & Subbarao Kambhampati. Action-Model Based Multi-agent Plan Recognition NIPS 2012.

- (97) Yuheng Hu, Ajita John, Fei Wang & Subbarao Kambhampati. ET-LDA: Joint Topic Modeling for Aligning Events and their Twitter Feedback AAAI 2012.
- (98) Rehj Cantrell, Kartik Talamadupula, Paul Schermerhorn, J. Benton, Subbarao Kambhampati & Matthias Scheutz. Tell me when and why to do it!: Run-time planner model updates via natural language instruction ACM/IEEE Intl. Conf. on Human Robot Interaction. 2012.
- (99) Manish Kumar Jha, Raju Balakrishnan and Subbarao Kambhampati. Agreement Based Source Selection for the Multi-Domain Deep Web Integration. COMAD 2011.
- (100) Raju Balakrishnan, Subbarao Kambhampati SourceRank: Relevance and Trust Assessment for Deep Web Sources Based on Inter-Source Agreement. Proceedings of WWW 2011, Hyderabad.
- (101) Ravi Gummadi, Anupam Khulbe, Aravind Kalavagattu, Sanil Salvi, Subbarao Kambhampati. SmartInt: Using Mined Attribute Dependencies to Integrate Fragmented Web Databases Proceedings of WWW 2011, Hyderabad. (Poster from regular track; 16% acceptance rate)
- (102) Raju Balakrishnan, Subbarao Kambhampati Factal: Integrating Deep Web Based on Trust and Relevance. Proceedings of WWW 2011, Hyderabad. (Demo paper).
- (103) Kartik Talamadupula, J. Benton, Paul Schermerhorn, Matthias Scheutz and Subbarao Kambhampati. Integrating a closed-world planner with an open-world robot: A case study. AAAI 2010
- (104) William Cushing, J. Benton, Subbarao Kambhampati. Cost-based search considered harmful. Symposium on Combinatorial Search (SOCS) 2010.
- (105) J.Benton, Robert Mattmueller, Patrick Eyerich, S. Kambhampati G-Value Plateaus: A Challenge for Planning. ICAPS 2010. (Challenge Paper).
- (106) Raju Balakrishnan and Subbarao Kambhampati. SourceRank: Relevance and Trust Assessment for deep web sources based on inter-source agreement. WWW 2010. (**Recipient of the "Best Poster" award at WWW-2010.**)
- (107) Ravi Gummadi, Anupam Khulbe, Aravind Kalavagattu, Sanil Salvi, and Subbarao Kambhampati. SMARTINT: A System for Answering Queries over Web Databases Using Attribute Dependencies. ICDE 2010 (Demo).
- (108) Nan Li, Will Cushing, Subbarao Kambhampati & Sungwook Yoon. Learning user plan preferences obfuscated by feasibility constraints. ICAPS 2009.
- (109) Paul Schermerhorn\*, J. Benton, Matthias Scheutz, Kartik Talamadupula, Subbarao Kambhampati. Finding and Exploiting Goal Opportunities in Real-time during Plan Execution. IROS 2009.
- (110) Nan Li, Subbarao Kambhampati & Sungwook Yoon. Learning Probabilistic Hierarchical Task Networks to Capture User Preferences. IJCAI 2009.
- (111) Tuan Nguyen, Minh Do, Biplav Srivastava and Subbarao Kambhampati. Planning with Partial Preference Models. IJCAI 2009.
- (112) Sungwook Yoon and Subbarao Kambhampati (along with many other authors). An Ensemble Learning and Problem Solving Architecture for Airspace management Proc. IAAI 2009.
- (113) Sungwook Yoon, Alan Fern, Robert Givan and Subbarao Kambhampati. Probabilistic Planning via Determinization in Hindsight. AAAI 2008. (Presented orally as well as as a poster.

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- (114) Sungwook Yoon, J. Benton and S. Kambhampati. An online learning method for improving over-subscription planning. ICAPS 2008 (Acceptance ratio: 30%)
- (115) Garrett Wolf, Hemal Khatri, Bhaumik Chokshi, Jianchun Fan, Yi Chen & Subbarao Kambhampati. Query processing over Incomplete Autonomous Databases. VLDB 2007. (Acceptance ratio: 16%)
- (116) Raju Balakrishnan and Subbarao Kambhampati. Optimal Ad Ranking for Profit Maximization. WebDB 2008.
- (117) Subbarao Kambhampati. Model-lite Planning for the Web Age Masses: The Challenges of Planning with Incomplete and Evolving Domain Theories AAAI 2007.
- (118) Menkes van den Briel, J. Benton, Subbarao Kambhampati and Thomas Vossen. An LP-Based Heuristic for Optimal Planning. Constraint Programming Conference (CP-2007).
- (119) William Cushing, Daniel Weld, Subbarao Kambhampati, Mausam & Kartik Talamadupula. Evaluating Temporal Planning Domains. ICAPS 2007.
- (120) J. Benton, Menkes van den Briel & Subbarao Kambhampati. A Hybrid Linear Programming and Relaxed Plan Heuristic for Partial Satisfaction Planning Problems. ICAPS 2007.
- (121) William Cushing, Subbarao Kambhampati, Mausam, Daniel Weld. IJCAI 2007 When is Temporal Planning Really Temporal? (oral presentation, Acceptance rate < 15%)
- (122) Planning with Goal Utility Dependencies Minh Do, J. Benton, Subbarao Kambhampati, Menkes van den Briel. IJCAI 2007. (oral presentation, Acceptance rate < 15%)
- (123) Domain Independent Approaches for Finding Diverse Plans Biplav Srivastava, Subbarao Kambhampati, Tuan Nguyen, Minh Do, Alfonso Gerevini, Ivan Serina. IJCAI 2007. (oral presentation, Acceptance rate < 15%)
- (124) QUIC: Handling Query Imprecision & Data Incompleteness in Autonomous Databases. Subbarao Kambhampati, Garrett Wolf, Yi Chen, Hemal Khatri, Bhaumik Chokshi, Jianchun Fan, Ullas Nambiar. CIDR 2007.
- (125) Sequential Monte Carlo in Probabilistic Planning Reachability Heuristics Daniel Bryce, Subbarao Kambhampati, and David E. Smith, ICAPS, 2006.
- (126) Supporting Queries with Imprecise Constraints Ullas Nambiar and Subbarao Kambhampati. AAAI 2006 NECTAR program.
- (127) Answering Imprecise Queries over Autonomous Web Databases Ullas Nambiar and Subbarao Kambhampati. To appear in Proc. ICDE 2006.
- (128) Oversubscription planning with metric goals. J. Benton, Minh B. Do and S. Kambhampati. IJCAI 2005.
- (129) Cost Sensitive Reachability Heuristics for Handling State Uncertainty Daniel Bryce and Subbarao Kambhampati. Proc. UAI 2005.
- (130) Romeo Sanchez and Subbarao Kambhampati. Planning Graph Heuristics for Selecting Objectives in Over-subscription Planning Problems. ICAPS 2005.
- (131) Menkes van den Briel, Thomas Vossen and Subbarao Kambhampati. Reviving Integer Programming Approaches for AI Planning: A Branch-and-Cut Framework ICAPS 2005.
- (132) Effective approaches for Partial Satisfaction (over-subscription) Planning. Menkes van den Briel, Romeo Sanchez Nigenda, Minh B. Do and Subbarao Kambhampati. AAAI 2004

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- (133) Mining Approximate Functional Dependencies and Concept Similarities to Answer Imprecise Queries Ullas Nambiar and Subbarao Kambhampati. WebDB 2004. (Acceptance Ratio: 20%)
- (134) A frequency-based approach for mining coverage statistics in Data Integration. Zaiqing Nie and Subbarao Kambhampati. International Conference on Data Engineering (ICDE). 2004 (To appear). (Acceptance ratio: 14%)
- (135) Daniel Bryce, Subbarao Kambhampati. Heuristic Guidance Measures for Conformant Planning. Proc. ICAPS. 2004. (Acceptance ratio: 30%).
- (136) Bibfinder/Statminer: Effectively mining and using Coverage and Overlap Statistics in Data Integration Zaiqing Nie, Subbarao Kambhampati and Thomas Hernandez. Proc. Very Large Databases (VLDB) 2003. (Demonstration Paper) (Acceptance ratio: 25%)
- (137) Minh B. Do and Subbarao Kambhampati. Improving the Temporal Flexibility of Position Constrained Metric Temporal Plans. In Proc. ICAPS. (Acceptance ratio: 30%). 2003.
- (138) Minh B. Do and Subbarao Kambhampati. Planning Graph-based heuristics for Cost-sensitive Temporal Planning AIPS 2002. (Acceptance ratio: 30%).
- (139) Z.Nie, U. Nambiar, S. Lakshmi and S. Kambhampati. Mining Coverage Statistics for Web-source Selection in a Mediator Proc. CIKM 2002.
- (140) Zaiqing Nie and Subbarao Kambhampati Joint Optimization of Cost and Coverage of Information Gathering Plans. In Proc. of ACM CIKM 2001. CIKM 2001: 223-230 (Acceptance ratio: 25%).
- (141) Minh B. Do and Subbarao Kambhampati. Sapa: A domain-independent heuristic metric temporal planner. In Proc. ECP 2001. Toledo, Spain. (Acceptance ratio: 30%).
- (142) XuanLong Nguyen, Subbarao Kambhampati. Reviving Partial Order Planning In Proc. IJCAI-2001. IJCAI 2001: 459-466. (Acceptance ratio: 24.7%).
- (143) Extracting effective and admissible heuristics from the planning graph. X. Nguyen and S. Kambhampati. AAAI/IAAI 2000: 798-805. (Acceptance ratio: 30%).
- (144) M. Do and S. Kambhampati. Solving Planning Graph by Compiling it into a CSP. Proc. 5th AIPS. AIPS 2000: 82-91. (Acceptance ratio: 30%) (**10 Year Influential Paper Award, Runner-up; 2010**).
- (145) S. Kambhampati and R. Nigenda. Distance-based goal ordering heuristics for Graphplan. Proc. 5th AIPS 2000. AIPS 2000: 315-322. (Poster. Acceptance ratio: 40%)
- (146) M. Do, B. Srivastava and S. Kambhampati. Investigating the effect of Relevance and Reachability CONstraints on SAT encodings of Planning. Proc. 5th AIPS 2000. AIPS 2000: 308-314. (Poster. Acceptance ratio: 40%)
- (147) S. Kambhampati. Improving Graphplan's search with EBL and DDB Techniques. Proc. Intl. Joint Conf. on Artificial Intelligence (IJCAI-99). Stockholm. 1999. IJCAI 1999: 982-987. (Acceptance ratio: 26%).
- (148) E. Lambrecht, S. Kambhampati and S. Gnanaprakasam. Optimizing recursive information gathering plans. Proc. Intl. Joint Conf on Artificial Intelligence. (IJCAI-99). Stockholm. 1999. IJCAI 1999: 1204-1211. (Acceptance ratio: 26%).
- (149) T. Zimmerman and S. Kambhampati. Exploiting symmetry in the planning graph via explanation-guided search. Proc. National Conference on AI (AAAI-99). 1999. AAAI/IAAI 1999:

605-611. (Acceptance ratio: 25%).

- (150) A. Mali and S. Kambhampati. On the utility of Plan-space (causal) encodings. In Proc. National Conference on AI (AAAI-99). 1999. AAAI/IAAI 1999: 557-563. (Acceptance ratio: 25%).
- (151) S. Kambhampati, A. Mali and B. Srivastava. Hybrid planning for partially hierarchical domains. Proc. National Conf. on AI (AAAI-98), 1998. (Acceptance ratio: 28%)
- (152) A. Mali and S. Kambhampati. HTN planning as propositional satisfiability. Proc. 4th AI Planning Systems Conference. 1998 AIPS 1998: 190-198. (Acceptance ratio: 30%)
- (153) B. Srivastava, A. Mali and S. Kambhampati. A structured approach for synthesizing planners from specifications. Proc. 12th IEEE Intl. conf. on Automated Software Engineering Conference, Lake Tahoe. 1997. pp. 18-26. (Acceptance ratio: 30%)
- (154) S. Kambhampati, E. Parker and E. Lambrecht. Understanding and Extending Graphplan. 4th European Conference on Planning. September, 1997. (Acceptance ratio: 30%). pp. 262-274. (Also appears as a poster at IJCAI-97)
- (155) S. Kambhampati. Challenges in bridging plan synthesis paradigms. Intl. Joint Conf. on Artificial Intelligence. IJCAI-97. 1997. pp. 44-49. (Acceptance ratio: 25%)
- (156) S. Kambhampati and X. Yang. "On the role of Disjunctive representations and Constraint Propagation in Refinement Planning" *Proc. of Knowledge Representation and Reasoning*, 1996.KR 1996: 135-146. (Acceptance ratio: 31%)
- (157) S. Kambhampati, Formalizing Dependency Directed Backtracking and Explanation-based Learning in Refinement Search. *Proc. National Conference on Artificial Intelligence (AAAI-96)*, 1996. (Acceptance ratio: 30%)
- (158) L. Ihrig and S. Kambhampati. "Design and Implementation of a Replay Framework based on a Partial order Planner." *Proc. National Conference on Artificial Intelligence (AAAI-96)*, 1996. (Acceptance ratio: 30%)
- (159) S. Kambhampati, L. Ihrig and B. Srivastava. "A Candidate Set based analysis of subgoal interactions in conjunctive goal planning." In Proceedings of 3rd Intl. Conf. on AI Planning Systems, May 1996. (Acceptance ratio: 30%)
- (160) S. Kambhampati and B. Srivastava. "Universal Classical Planner: An Algorithm for Unifying State-space and Plan-space Planning," *Current trends in AI Planning*, IOS Press, 1995. (based on a paper presented at 3rd European Workshop on Planning, September 1995. Acceptance Ratio: 39%).
- (161) L. Ihrig and S. Kambhampati. "Integrating Replay with EBL to improve planning performance." *Current trends in AI Planning*, IOS Press, 1995. (based on a paper presented at Proc. 3rd European Workshop on Planning, September 1995; Acceptance Ratio: 39%).
- (162) Y. Qu and S. Kambhampati. "Learning control rules for expressive plan-space planners: Factors influencing the performance." *Current trends in AI Planning*, IOS Press, 1995. (based on a paper presented at Proc. 3rd European Workshop on Planning, September 1995; Acceptance Ratio: 39%).
- (163) S. Kambhampati. "Admissible pruning strategies based on plan-minimality for plan-space planning" *Proc. 14th Intl. Joint Conference on Artificial Intelligence. August 1995. (Acceptance ratio: 23%)*

- (164) S. Kambhampati. "Refinement Search as a unifying framework for analyzing planning algorithms," *Proc. 4th Intl. Conf. on Principles of Knowledge Representation and Reasoning*, May 1994 (Acceptance ratio: 20%)
- (165) S. Kambhampati. "Design Tradeoffs in partial order (plan-space) planning," *Proc. 2nd Intl. Conf. on AI Planning Systems*, June 1994. (Acceptance ratio: 30%)
- (166) S. Kambhampati and D.S. Nau. "On the nature of modal truth criteria in planning," *Proc. 12th Natl. Conf. on Artificial Intelligence (AAAI-94)*, August 1994. (Acceptance ratio: 27%)
- (167) L. Ihrig and S. Kambhampati. "Derivation Replay for Partial-order Planning," *Proc. 12th Natl. Conf. on Artificial Intelligence (AAAI-94)*, August 1994. (Acceptance ratio: 27%)
- (168) S. Katukam and S. Kambhampati. "Learning Explanation-based Search control rules for partial-order planning," *Proc. 12th Natl. Conf. on Artificial Intelligence (AAAI-94)*, August 1994. (Acceptance ratio: 27%).
- (169) S. Kambhampati. "On the Utility of Systematicity: Understanding Tradeoffs between redundancy and commitment in partial-ordering planning," *Proceedings of the 13th Intl. Joint Conf. on Artificial Intelligence*, Chamberry, France. (Acceptance ratio: 25%)
- (170) S. Kambhampati and J. Chen. "Relative utility of EBG-based plan reuse in partial ordering vs. total ordering planning frameworks," *Proceedings of 11th National Conference on Artificial Intelligence*, Washington D.C. (Acceptance ratio: 24%)
- (171) S. Kambhampati, "Characterizing Multi-Contributor Causal Structures for Planning," *Proceedings of the 1st Intl. Conf. on AI Planning Systems (AIPS-92)*, College Park, MD, June 1992, pp. 116-125. (Acceptance ratio: 27%)
- (172) S. Kambhampati, M.R. Cutkosky, J.M. Tenenbaum and S.H. Lee, "Combining Specialized Reasoners and General Purpose Planners: A Case Study," *Proceedings of the 9th National Conference on Artificial Intelligence (AAAI-91)*, Anaheim, CA, July 1991. (Acceptance ratio: 23%)
- (173) S. Kambhampati and S.T. Kedar, "Explanation Based Generalization of Partially Ordered Plans" *Proceedings of the 9th National Conference on Artificial Intelligence (AAAI-91)*, Anaheim, CA, July 1991. (Acceptance ratio: 23%)
- (174) S. Kambhampati, "A Theory of Plan Modification," *Proceedings of the 8th National Conference on Artificial Intelligence (AAAI-90)*, Boston, MA, August 1990, pp. 176-182. (Acceptance ratio: 17%)
- (175) S. Kambhampati, "Mapping and Retrieval during Plan Reuse: A Validation Structure Based Approach," *Proceedings of the 8th National Conference on Artificial Intelligence (AAAI-90)*, Boston, MA, August 1990, pp. 170-175. (Acceptance ratio: 17%)
- (176) S. Kambhampati and J.A. Hendler, "Control of Refitting during Plan Reuse," *Proceedings of the 11th International Joint Conference on Artificial Intelligence (IJCAI-89)*, Detroit, MI, August 1989, pp. 943-948. (Acceptance ratio: 20%)
- (177) S. Kambhampati and J.A. Hendler, "Flexible Reuse of Plans via Annotation and Verification," *Proceedings of the 5th IEEE Conf. on Applications of Artificial Intelligence (CAIA-89)*, Miami, FL, March 1989, pp. 37-43. (Acceptance ratio: 22%)

*National/International Conference Proceedings/Reviewed papers*



- (178) AltAlt: Combining the advantages of Graphplan and Heuristic State Search. Romeo Sanchez Nigenda, XuanLong Nguyen and Subbarao Kambhampati. Proc. Intl. Conference on Knowledge-based Computer Systems (KBCS-2000). Mumbai. India.
- (179) X. Li, S. Kambhampati and J. Shah. "ASUPPA: A Framework for Interactive and Iterative Synthesis and Improvement of Process Plans." DETC2000/CIE-14628. Proc. of DETC'00, ASME 2000 Design Engineering Technical Conferences and Computer and Information Engineering Conference. September, 2000.
- (180) X. Li, S. Kambhampati, K. Hirode and J. Shah. "Process Planner's Assistant: An incremental and interactive approach to automating process planning." ASME Design Engineering Technical Conference, 1997
- (181) S.H. Lee, M.R. Cutkosky and S. Kambhampati, "Incremental and Interactive Geometric Reasoning for Fixture and Process Planning," *Proceedings of 1992 ASME Winter Annual Meeting on Computer based Approaches to Concurrent Engineering*, November 1991.
- (182) S. Kambhampati and J.M. Tenenbaum, "Planning in Concurrent Domains," *Proceedings of the 1990 DARPA Workshop on Innovative Approaches to Planning, Scheduling and Control*, San Diego, CA, November 1990, pp. 93-99.
- (183) S. Kambhampati and M.R. Cutkosky, "An Approach Toward Incremental and Interactive Planning for Concurrent Product and Process Design," *Proceedings of 1990 ASME Winter Annual Meeting on Computer based Approaches to Concurrent Engineering*, Dallas, TX, November 1990.
- (184) S. Kambhampati and J.A. Hendler, "Adaptation of Plans via Annotation and Verification," *Proceedings of the 1st International Conference on Industrial and Engineering Applications of Artificial Intelligence and Expert Systems*, Tullahoma TN, June 1988 pp. 164-170.
- (185) S. Kambhampati and L.S. Davis, "Multi Resolution Path Planning for Mobile Robots," *Proceedings of the DARPA Image Understanding Workshop*, pp. 421-432, Miami Beach, FL, December 1985, pp. 421-432.
- (186) F.P. Andresen, L.S. Davis and S. Kambhampati, "Visual Algorithms for Autonomous Navigation," *Proceedings of the IEEE International Conference on Robotics and Automation*, St. Louis, MO, March 1985, pp. 856-861.

***Symposia and Workshop Publications (reviewed proceedings):***

- (187) Yu Zhang, Sarath Sreedharan, Anagha Kulkarni, Tathagata Chakraborti, Hankz Hankui Zhuo and Subbarao Kambhampati. Plan explicability for robot task planning. RSS Workshop on Planning for Human-Robot Interaction, 2016
- (188) Tathagata Chakraborti, Kartik Talamadupula, Yu Zhang & Subbarao Kambhampati A Formal Framework for Studying Interaction in Human-Robot Societies AAAI 2016 Workshop on Symbiotic Cognitive Systems.
- (189) A Game Theoretic Approach to Ad-hoc Coalitions in Human-Robot Societies Tathagata Chakraborti, Venkata Vamsikrishna Meduri, Vivek Dondeti & Subbarao Kambhampati AAAI 2016 Workshop on Multiagent Interaction without Prior Coordination.
- (190) Lydia Manikonda, Heather Pon-Barry, Subbarao Kambhampati, Eric Hekler & David W. McDonald Venting Weight: Analyzing the Discourse of an Online Weight Loss Forum

AAAI 2016 Workshop on World Wide Web and Population Health Intelligence

- (191) Tathagata Chakraborti; Yu Zhang; David Smith; and Subbarao Kambhampati. Planning with Stochastic Resource Profiles: An Application to Human-Robot Co-habitation. ICAPS Workshop on Planning and Robotics (PlanRob) 2015.
- (192) Tathagata Chakraborti, Gordon Briggs, Kartik Talamadupula, Matthias Scheutz, David Smith and Subbarao Kambhampati. Planning for Serendipity -- Altruism in Human-Robot Co-habitation. ICAPS Workshop on Planning and Robotics (PlanRob) 2015.
- (193) Lydia Manikonda, Tathagata Chakraborti, Sushovan De, Kartik Talamadupula, Subbarao Kambhampati. AI-MIX: Using Automated Planning to Steer Human Workers towards Better Crowdsourced Plans HCOMP 2014. Works in Progress.
- (194) Lydia Manikonda, Heather Pon-Barry, Subbarao Kambhampati, Eric Hekler & David W. McDonald. Discourse Analysis of User Forums in an Online Weight Loss Application ACL 2014 Joint Workshop on Social Dynamics and Personal Attributes.
- (195) Kartik Talamadupula, Subbarao Kambhampati, Yuheng Hu, Tuan Anh Nguyen, Hankz Hankui Zhuo: Herding the Crowd: Automated Planning for Crowdsourced Planning. HCOMP (Works in Progress / Demos) 2013.
- (196) Kartik Talamadupula & Subbarao Kambhampati. Easychair as a Pedagogical Tool Engaging Graduate Students in the Reviewing Process. EAAI 2014 (AAAI).
- (197) A Formal Analysis of Required Cooperation in Multi-agent Planning Yu Zhang & Subbarao Kambhampati ICAPS Workshop on Distributed Multi-Agent Planning (DMAP), 2014.
  
- (198) Srijith Ravikumar, Kartik Talamadupula, Raju Balakrishnan Subbarao Kambhampati. RARProp: Ranking Tweets by Exploiting the Tweet/User/Web Ecosystem and Inter-Tweet Agreement AAAI 2013 (Late-breaking paper)
- (199) Kartik Talamadupula, Matthias Scheutz, Gordon Briggs, and Subbarao Kambhampati. On the Many Interacting Flavors of Planning for Robotics ICAPS 2013 Workshop on Planning and Robotics. 2013
- (200) Kartik Talamadupula, David Smith, William Cushing and Subbarao Kambhampati. A Theory of Intra-Agent Replanning ICAPS 2013 Workshop on Distributed and Multi-Agent Planning. 2013
- (201) Srijith Ravikumar, Raju Balakrishnan and Subbarao Kambhampati. Ranking Tweets Considering Trust and Relevance. SIGMOD Workshop on Information Integration on the Web (IIWeb), 2012.
- (202) Kartik Talamadupula, Paul Schermerhorn, J. Benton, Subbarao Kambhampati, and Matthias Scheutz. Planning for Agents with Changing Goals ICAPS 2011 System Demonstration. Placed 3rd for the "Best Demo" award
- (203) Kartik Talamadupula, Subbarao Kambhampati, Paul Schermerhorn, J. Benton and Matthias Scheutz. Planning for Human-Robot Teaming. ICAPS 2011 Workshop on Scheduling and Planning Applications, 2011.
- (204) William Cushing, J. Benton, Subbarao Kambhampati. Cost Based Satisficing Search Considered Harmful Technical report arxiv:1103.3687; March 2011. ICAPS 2011 Workshop on Heuristics for Domain Independent Planning.

- (205) J. Benton, Patrick Eyerich and Subbarao Kambhampati Enhancing Search for Satisficing Temporal Planning with Objective-driven Decisions ICAPS 2011 Workshop on Heuristics for Domain Independent Planning.
- (206) Tuan Nguyen, Subbarao Kambhampati, Minh Do. Synthesizing Robust Plans under Incomplete Domain Models Technical report arxiv:1104.5069; April 2011. Presented at AAAI 2011 Workshop on Generalized Planning.
- (207) Tuan A. Nguyen and Subbarao Kambhampati and Minh B. Do. Assessing and Generating Robust Plans with Partial Domain Models ICAPS 2010 Workshop on Planning under Uncertainty. 2010.
- (208) Kartik Talamadupula, J. Benton, Paul Schermerhorn, Subbarao Kambhampati and Matthias Scheutz. Integrating a ClosedWorld Planner with an Open World Robot: A Case Study. ICAPS 2009 workshop on bridging the gap between action and motion planning. 2009
- (209) Fluent Merging: A General Technique to Improve Reachability Heuristics and Factored Planning Menkes van den Briel, Subbarao Kambhampati and Thomas Vossen. ICAPS 2007 Workshop on Heuristics for Domain Independent Planning: Progress, Ideas, Limitations and Challenges.
- (210) Towards Model-lite Planning: A Proposal For Learning & Planning with Incomplete Domain Models Sungwook Yoon and Subbarao Kambhampati ICAPS 2007 Workshop on AI Planning and Learning.
- (211) Hierarchical Strategy Learning with Hybrid Representations Sungwook Yoon and Subbarao Kambhampati AAAI 2007 Workshop on Acquiring Planning Knowledge via Demonstration. 2007.
- (212) Model-Lite Planning: Diverse Multi-option plans & Dynamic Objective Functions. Daniel Bryce, William Cushing & Subbarao Kambhampati ICAPS 2007 Workshop on Planning and Plan Execution for Real World Systems.
- (213) Towards Model-lite Planning: A Proposal For Learning & Planning with Incomplete Domain Models Sungwook Yoon and Subbarao Kambhampati ICAPS 2007 Workshop on AI Planning and Learning.
- (214) Finding Admissible Bounds for Over-subscription Planning Problems J. Benton, Menkes van den Briel & Subbarao Kambhampati ICAPS 2007 Workshop on Heuristics for Domain Independent Planning: Progress, Ideas, Limitations and Challenges.
- (215) QPIAD: Query processing over Incomplete Autonomous Databases Hemal Khatri, Jianchun Fan, Yi Chen & Subbarao Kambhampati. ICDE 2007 (poster).
- (216) Thomas Hernandez and Subbarao Kambhampati. Improving Text Collection Selection with Coverage and Overlap Statistics. Proc. of Word Wide Web Conference, 2005. (poster paper).
- (217) Providing ranked relevant results for Web database queries. Ullas Nambiar and Subbarao Kambhampati. Proc. of Word Wide Web Conference, 2004. (poster paper).
- (218) Over-subscription in Planning: A Partial Satisfaction Problem. Menkes van den Briel, Romeo Sanchez Nigenda and Subbarao Kambhampati. ICAPS 2004 Workshop on Integrating Planning into Scheduling.
- (219) Planning-Scheduling Connections through Exogenous Events. Minh B. Do, Subbarao Kambhampati and Terry Zimmerman. ICAPS 2004 Workshop on Integrating Planning into Scheduling.

- (220) Planning in Belief Space with a Labelled Uncertainty Graph Daniel Bryce, Subbarao Kambhampati and David E. Smith. AAAI 2004 workshop on Learning and Planning in Markov Decision Processes.
- (221) Romeo Sanchez Nigenda, Subbarao Kambhampati. Parallelizing State Space Plans Online. IJCAI 2003. Poster.
- (222) Terry Zimmerman, Subbarao Kambhampati. Using available memory to transform Graphplan's search. IJCAI 2003. Poster.
- (223) Zaiqing Nie, Subbarao Kambhampati. Frequency-based Coverage Statistics Mining for Data Integration. IJCAI Workshop on Information Integration on the Web. 2003.
- (224) Ullas Nambiar and Subbarao Kambhampati. Answering Imprecise Database Queries. ACM WIDM 2003 (Workshop on Web Information and Data Management).
- (225) Subbarao Kambhampati. A Critique of Knowledge-based planning track at ICP Position paper presented at the ICAPS Workshop on the Competition: Impact, Organization, Evaluation and Benchmarks. 2003.
- (226) Dan Bryce and Subbarao Kambhampati. Heuristic guidance measures for Conformant Planning. ICAPS workshop on Planning under uncertainty and incomplete information. 2003
- (227) S. Kambhampati, Senthil, G. Source-call ordering techniques for information gathering. IJCAI Workshop on Intelligent Information Integration. 1999.
- (228) E. Lambrecht and S. Kambhampati. Minimizing recursive information gathering plans. *In Proc. AAAI Workshop on Integrating Information Sources*. 1998.
- (229) X. Li, S. Kambhampati and J. Shah. An iterative and interactive approach for process planning. *In Proc. AAAI/SIGMAN workshop on AI Approaches in Manufacturing*, 1998.
- (230) E. Parker and S. Kambhampati. Making Graphplan goal-directed. Working notes of AIPS-98 workshop on Planning as combinatorial search. 1998.
- (231) A. Mali and S. Kambhampati. Refinement Planning as Satisfiability. Working notes of AIPS-98 workshop on Planning as combinatorial search. 1998.
- (232) A. Mali and S. Kambhampati. Frugal propositional encodings for planning. Working notes of AIPS-98 workshop on Planning as combinatorial search. 1998.
- (233) L. Ihrig and S. Kambhampati. "Automatic storage and indexing of plan derivations based on replay failures." *In Proc. of IJCAI Workshop on formal methods for reuse of plans, proofs and programs.*, August 1995.
- (234) S. Kambhampati. "No Planner is an Island: Lessons from Nextcut process planning System." In working notes of AAAI Spring Symposium on Integrated planning applications. Stanford, March 1995.
- (235) L. Ihrig and S. Kambhampati. "Evaluating the effectiveness of replay in partial order planning." In working notes of AAAI workshop on Case-based Reasoning, Seattle, 1994.
- (236) S. Kambhampati et. al. "Integrated approaches to improving the effectiveness of plan reuse," Proceedings of ARPA Planning Initiative workshop, Tucson, February 1994.
- (237) J. Hendler et. al. "Massively parallel support for casebased planning," Proceedings of ARPA Planning Initiative workshop, Tucson, February 1994.
- (238) S. Kambhampati, "On the Utility of Systematicity: Understanding Tradeoffs between Redundancy and Commitment in Partial-Ordering Planning," *AAAI Spring Symposium on*

*Foundations of Automatic Planning: The classical approach and beyond*, March 1993

- (239) S. Kambhampati, "Utility Tradeoffs in Incremental Plan Modification," *AAAI Spring Symposium on Computational Considerations in supporting incremental modification and reuse*, Stanford, CA, March 1992.
- (240) S. Kambhampati, J.M. Tenenbaum, S.H. Lee and M.R. Cutkosky, "Towards a Hybrid Planning Architecture," *AAAI Fall Symposium on Principles of Hybrid Reasoning*, Asilomar, CA, November 1991.
- (241) S. Kambhampati, J.M. Tenenbaum, S.H. Lee and M.R. Cutkosky, "Interactive and Incremental Planning for Concurrent Design: A Case Study," *Proceedings of the DARPA Workshop on Manufacturing*, Salt Lake City, Utah, February 1991.
- (242) S. Kambhampati, "A Framework for Replanning in Hierarchical Nonlinear Planning," *AAAI Spring Symposium on Planning in Uncertain, Unpredictable, or Changing Environments*, Stanford, CA, March 1990.
- (243) S. Kambhampati, "A Classification of Plan Modification Strategies based on Coverage and Information Requirements," *AAAI Spring Symposium on Case-Based Reasoning*, Stanford, CA, March 1990.
- (244) S. Kambhampati and J.M. Tenenbaum, "Towards a Paradigm for Planning in Interactive Domains with Multiple Specialized Domain Modules," *AAAI Workshop on Automated Planning for Complex Domains*, Boston, MA, August 1990.
- (245) S. Kambhampati, J.M. Tenenbaum and M.R. Cutkosky, "Towards an Incremental and Interactive Paradigm for Process Planning in Concurrent Design Environments," *AAAI Workshop on Concurrent Engineering Design*, Boston, MA, August 1990.
- (246) S. Kambhampati, "Integrating Planning and Reuse: A Framework for Flexible Plan Reuse," *Proceedings of the 2nd DARPA Workshop on Case-Based Reasoning*, Pensacola Beach, FL, May 1989.
- (247) S. Kambhampati, "Representational Requirements for Plan Reuse," *Proceedings of the 2nd DARPA Workshop on Case-Based Reasoning*, Pensacola Beach, FL, May 1989.
- (248) J.A. Hendler and S. Kambhampati, "Refitting Plans for Case-Based Reasoning," *Proceedings of the DARPA Workshop on Case-Based Reasoning*, Clearwater Beach, FL, May 1988.

#### ***Unpublished Technical Reports:***

- (249) Thomas Hernandez and Subbarao Kambhampati. *Integration of Bioinformatic Sources: Current Approaches and Systems*. ASU CSE TR 03-005. July 2003.
- (250) E. Lambrecht and S. Kambhampati. *Planning for Information Gathering: A tutorial Survey*. ASU CSE TR 97-017, May 1997.
- (251) S. Kambhampati and B. Srivastava. *Unifying Classical Planning Approaches*. ASU CSE Technical Report 96-006. (59 pages)
- (252) L. Ihrig and S. Kambhampati. "On the Relative Utility of Plan-space vs. State-space planning in a case-based framework." ASU CSE TR 94-006, December 1994
- (253) S. Batchu, S. Kambhampati, H. Kartheek and J. Shah. *An Iterative and Interactive approach for process planning*. ASU CSE TR 95-023. September 1995.

- (254) S. Kambhampati. "Classical Planning: A Compilation of notes from a seminar course held at ASU in Spring 1993,' ASU-CS-TR 93-003, Arizona State University, 1993.
- (255) S. Ghosh, J.A. Hendler, S. Kambhampati and B. Kettler, "Commonlisp Implementation of a NONLIN-based Hierarchical Planner," Technical Report, Dept. Comp. Sci, University of Maryland, 1991.

***Theses:***

- (256) S. Kambhampati, "Flexible Reuse and Modification in Hierarchical Planning: A Validation Structure Based Approach," **Ph.D. Thesis**, University of Maryland, College Park, MD, 1989.
- (257) S.Kambhampati, "Multi Resolution Path Planning for Mobile Robots," **M.S. Thesis**, University of Maryland, College Park, MD, 1985.
- (258) S. Kambhampati, "Some Experiments on Isolated Word Speech Recognition for Confusable Vocabulary," **B.TECH. Project Report**, Indian Institute of Technology, Madras, India, 1983.

***Invited Presentations (not including the conference presentations):***

- Origins Great Debate: Future of Artificial Intelligence: Who is in control?. Panelist. Tempe. February 2017.
- Planning Challenges in Human-Aware AI Systems. Invited talk at AAAI 2017 Workshop on Human-Aware Artificial Intelligence. San Francisco. February 2017.
- Planning Challenges in Human-Machine Collaboration (In Praise of Human-Aware AI). Invited talk at Johnson Controls. Milwaukee. January 2017.
- Innovation Talks: Advancing the Scientific Frontiers of Cognitive Systems. IBM World of Watson. Panelist. Las Vegas. October 2016.
- Planning Challenges in Human-Machine Collaboration (In Praise of Human-Aware AI). Keynote speech at Chinese Conference on Artificial Intelligence. Beijing. August 2016
- Aspen Institute AI Round Table, August 2016. (Invited participant). Aspen.
- The Path to General AI goes through Human-Machine Collaboration. An invited briefing to the DOD JASON Committee. San Diego. June 2016.
- Existential Threat, Moi? Panel presentation at the Governance of Emerging Technologies Conference. Tempe. May 2016,
- Symbols-Neurons, Logic-Probability, Replace-Augment, Disappointment-Doomsday: Where will the AI pendulum swing next? Invited talk at AAAI-2016 Open house. Phoenix. February 2016.
- Future of Artificial Intelligence. Part of a discussion series held by the School of Future of Innovation. ASU. April 2016.
- AI Thresholds. A presentation at Hastings Center workshop on Control and Responsible Innovation in Artificial Intelligence. April 2016.
- Planning challenges in human-machine collaboration. Lockheed Martin Distinguished Colloquium. Cherry Hill, PA. April 2016.
- Planning challenges in human-machine collaboration. AI Seminar. University of Washington. February 2016.
- Human-Aware and Human-in-the-Loop Planning and Decision Support. Invited short "What's Hot" talk at AAAI 2014. July 2014.
- Challenges of Human-in-the-loop Planning & Decision Support. Seminar at University of Connecticut 2014. October 2014.
- Human-in-the-Loop/Human-Aware Planning and Decision Support. Talk at ARL Invitational Workshop. October 2014.
- Wittgenstein's papers and Faraday's talks: Maxims for a Milk-fed Researcher. Invited Mentoring Talk at IJCAI 2013. August 2013.
- "You can't do that, Dave! Collateral Lessons from a Computational Quest to Design HAL", 16th ASU Last Lecture Series, April 2011.
- "Back to the Future of Planning" Invited lectures at ACAI Summer School on Automated Planning, Freiburg, Germany, 2011.
- "Incomplete Domain Models, Uncertain Users, Unending Planning Open Worlds" ONR/IPAM Machine Reasoning Workshops 3 & 4. November 2010.

- "Incomplete domain models, uncertain users and open worlds: Foundations of Model-lite Planning" Invited talk at the CMU Robotics Institute Seminar. April 2010.
- "How to write a good research paper?" Invited talk at the Doctoral Consortium. International Conference and Planning and Scheduling. Sep 2009.
- "Do Robots need a Bill of Rights?" A Science Cafe Discussion at AZ Science Center. 11/2007.
- "Human-Aware AI" Talk given at University of Washington Seminar on Future of AI. 11/2007.
- "Real World Planning: Soft Constraints & Incomplete Models" Colloquium at Dept of CSE, Washington University, St. Louis. 10/2007
- "Real World Planning: Soft Constraints & Incomplete Models" Colloquium at Institute for Human-Machine Cognition. Pensacola, FL. 9/2007.
- "Learning for Planning" A 4-hour Tutorial given at Intl. Conf. on Planning and Scheduling 2007 (joint with Sungwook Yoon).
- "Information Integration on the Web" A 4-hour Tutorial given at the National Conference on Artificial Intelligence, 2007 (joint with Craig Knoblock)
- "Planning & Scheduling with Oversubscribed Resources, Preferences and Soft Constraints" A 4-hour Tutorial given at the National Conference on Artificial Intelligence, 2007 (Joint with Minh Binh Do and Terry Zimmerman).
- "Planning Graph Based Reachability Heuristics" A 4-hour Tutorial given at Intl. Joint Conference on Artificial Intelligence, 2007. (Joint with Daniel Bryce).
- "Planning and Learning" Lectures at the 2006 Machine Learning Summer School. Canberra. Australia.
- "Scalability Revolution in Planning" Lecture at Royal Melbourne Institute of Technology. 2006.
- "Adaptive Information Integration." Invited Seminar at USC/Information Sciences Institute. November, 2004.
- "1001 ways to skin a planning graph for heuristic fun and profit." Invited talk at 13th International Conference on Planning and Scheduling (ICAPS). Subbarao Kambhampati. ICAPS 2003.
- "Information Integration on the Web," a 4-hour tutorial at National Conference on AI, Edmonton, Alberta. Canada. August 2002 (Co-presented with Craig Knoblock). <http://rakaposhi.eas.asu.edu/i3-tut.html>
- "Integrating Planning and Scheduling: Status and Prospects," Invited talk. Intl. Conference on Knowledge Based Computer Systems. Mumbai, India. December, 2000.
- "A Unifying and Brand-name free introduction to Planning," Invited lecture. PLANET Summer School on Planning. Cyprus. September 2000.
- "Recent Advances in AI Planning: A unified view", a 4-hour tutorial at National Conference on AI, Austin, Texas. July 2000. <http://rakaposhi.eas.asu.edu/planning-tutorial.html>
- "Recent Advances in AI Planning: A unified view", a 4-hour tutorial at International Joint Conference on AI, Stockholm, Sweden. July 1999.
- "Refinement Planning: Status and Prospectus", Invited Talk at National Conference on AI. 1996.
- "Winning by being lazy: Ideas of abstraction, hierarchy and least-commitment in Planning", Invited Talk at NIPS-98 workshop on Reinforcement Learning. 1998.



- “Refinement planning”. Departmental Colloquium at Indian Institute of Technology, Kharagpur, India. 1998.
- “Refinement planning”. Departmental Colloquium at Indian Institute of Science, Bangalore, India. 1998.
- “Disjunctive refinement planning as a unifying framework for scaling up plan synthesis”, Invited Talk at ARPA Planning Initiative PI meeting. June 1997. Boston.
- “A Universal Classical planning algorithm based on refinement search”, University of Kaiserslautern, Germany, September 1995.
- “Universal classical Planning” Seminar at Naval Research Laboratory, Artificial Intelligence Center, April 1995.
- “Refinement Planning as a unifying framework for classical planning”, Seminar at University of Texas, El Paso, March 1995.
- “Planning and Learning,” Panelist at the 2nd Intl. Conference on AI Planning Systems. Chicago, June 1994.
- “Refinement Search as a Unifying Framework for Analyzing Planning Algorithms,” Colloquium talk at Edinburgh University, Department of Artificial Intelligence. Edinburgh. May 1994.
- “Computational Considerations in Supporting Incremental Modification and Reuse,” Fifth Annual Spring Symposium Series Public Forum on *Research Advances of Artificial Intelligence*, American Association for Artificial Intelligence, Stanford University, CA, March 26, 1992.
- “Improving Generality and Efficiency of Classical Planning,” A series of seminar talks at Indian Institutes of Technology (Madras, Delhi, Kanpur, Kharagpur, Bombay), and Indian Institute of Science, Bangalore, India. June 1992.
- “Supporting Flexible Plan Reuse,” Symposium on Learning Methods for Planning and Scheduling, Palo Alto, CA, January 1991.
- “A Theory of Incremental Plan Modification and its applications,” SIGLUNCH, Knowledge Systems Laboratory, Stanford University, February 1991.

### ***Research Grants (Reverse Chronological Order)***

- Explicable planning and replanning for human-in-the-loop decision support. (Early stage innovations (ESI)). NASA. PI: Kambhampati. (1/15/2017-1/14/2020). \$500,000.
- Planning Challenges in Human-Robot Teaming: An Integrated Exploration of Representations, Algorithms and Human Factors. ONR. PI: Kambhampati Co-PI: Nancy Cooke (8/1/2016-7/31/2019) \$774,376 (Kambhampati share: \$550,782).
- Instrumentation for Research on Planning for Peer-to-Peer Human-Robot Teaming. ONR. PI: Kambhampati. (8/15/2015--8/14/2016), \$282,500.
- Leveraging Automated Planning Technology to Develop Mixed-Initiative Decision Support Tools for the Web. \$51,500. Google Research Award (unrestricted gift). 2016.
- RADAR: A Framework for Human-in-the-loop Planning and Data-based decision support. ONR. PI: Kambhampati (1/1/2015--12/31/2017) \$596,800.
- Video-based Activity Recognition through Tight Integration of Visual Reasoning and Plan Recognition. ONR. PI: LI (Co-PI: Kambhampati) (5/1/2015--4/30/2018) \$753,553.
- Instrumentation for Research on Planning for Human-Robot Teaming. ARO. PI: Kambhampati. (8/1/14-7/31/15) \$112,864.
- Exploratory Research on RADAR: Proactive Decision and Data Support. ONR. PI: Kambhampati. (6/1/14-12/31/15) \$20,000.
- Listening To the Crowd: Automated Alignment, Aggregation and Analysis of Social Media Responses to Public Events \$55,000. Google Research Award (unrestricted gift). 2013.
- Robust Planning in the Presence of Partially Specified Domain Models. ONR. PI: Kambhampati. (1/1/13-12/31/15) \$450,000.
- Long-Term Continual Planning for Remote Human-Robot Teaming in Open Worlds. ONR. PI: Kambhampati. (1/1/13-12/31/15). \$450,000 (Kambhampati share \$349,675).
- Planning for Peer-to-Peer Human Robot Teaming in Open Worlds. ONR. PI: Kambhampati. Co-PI: Nancy Cooke. (5/1/13-4/30/16). \$450,000.
- S3: Suggestions for Suitable Scenarios. ASU subcontract on DARPA Oh By the Way program (subcontract through SIFT). \$341,270, 12/2010-2/1014.
- Relevance and Trust Aware Ranking for the Deep Web. \$50,000. Google Research Award (unrestricted gift). 2011.
- Metaplanning Framework to Evaluate and Select Decision Making Paradigms for UAV Missions. Northrup Grumman Corporation. \$174,524. 1/1/2010--12/31/2010. (PI: Sandeep Gupta).
- Solving Stochastic Planning Problems through Principled National Science Foundation. (Robust Intelligence Medium Collaborative Grant with Purdue and Oregon State) \$328,821. 7/2009--6/2012.
- Foundations of Model-lite Planning. Office of Naval Research. \$342,854. 10/2008--8/2011.
- Source and User Adaptive Information Integration. Office of Naval Research. \$472,589. 10/2008--8/2011.
- Google Research Grant. Unrestricted cash gift. \$50,000. 1/2008.
- Effective human-robot interaction through natural language dialog and dynamic autonomy. ONR Multi-University Research Initiative Award. ASU Share: \$1,000,000. 7/2007-7/2012. (One of

three ASU PIs) (Other Institutions: Indiana University, Notre Dame, Stanford).

- Computational Approaches to Creativity Through Goal-Directed Cross-Domain Analogy. National Science Foundation. \$200,000. 8/2007--8/2009.
- ASU subcontract of DARPA Integrated learning program. DARPA (subcontract through Lockheed Martin), \$420,000. 6/2007-12/2008. (Phase 2 of a 4-phase program)
- ASU subcontract of DARPA Integrated learning program. DARPA (subcontract through Lockheed Martin), \$420,000. 6/2006-6/2007. (Phase 1 of a 4-phase program)
- AOC: Archaeological Data Integration for the Study of Long-Term Human and Social Dynamics. National Science Foundation. \$750,000. 1/2007-1/2010. (One of 6 PIs).
- Supporting Partial Satisfaction Planning and Replanning in Expressive and Mixed Initiative Domains. Office of Naval Research. \$300,000. 10/2005-9/2008
- Enabling the Study of Long-Term Human and Social Dynamics: A Cyberinfrastructure for Archaeology. National Science Foundation. Planning grant. \$100,000. (One of 10 PIs). 7/2004-6/2005.
- IBM Faculty Award. Unrestricted cash gift. \$40,000. 7/2004.
- "Scalable Multi-Objective Planning for Metric Temporal Domains: Heuristics, Algorithms and Tradeoffs." National Science Foundation. Sole PI. \$459,042. (1/7/2003-30/6/2006).
- Enabling Technologies for Intelligent Information Integration. Prop 301 Initiative. State of Arizona. \$350,000. (1/1/2003-6/1/2005). (Lead PI; with 4 others).
- "Heuristic control of Plan Synthesis and Execution." NASA Intelligent Systems Initiative. \$162,000. (3/1/2001-2/28/2004).
- Supporting Continual Planning and Replanning in Metric-Temporal Domains" NASA Cross-enterprise Technology. \$483,000. (1/29/2001-1/28/2004). (Open competition among 1000 proposals; 10% award rate).
- Disjunctive planning as a unifying framework for scaling up plan-synthesis. National Science Foundation. 1998. IRI-9801676 \$273,473. (9/1/98-8/31/02).
- Exploring Tradeoffs in Disjunctive Planning as a means to scale-up plan synthesis, Air Force Research Lab, F20602-98-1-0182, \$100,000 (4/3/98-4/3/99). Extended to 7/3/00.
- NYI: Improving the generality and efficiency of AI planning Techniques," **NSF Young Investigator Award**, \$500,000 ( \$125,000 base level + Matching funds ) IRI-9457634 (8/94-8/2001)
- Exploring the role of constraint propagation in refinement planning. ARPA AASERT Award. DAAH-04096-1-0247. (my share \$227,571, 8/96-8/99).
- Automated Synthesis of Planners and Schedulers: Generic synthesis technology for crisis management. ARPA/ROME Laboratory Planning Initiative grant (with Doug Smith, Kestrel Institute), (my share \$273,000, 9/95-9/98).
- "Automated Annotation for the Analysis and Modification of Plans," ARPA/ROME Laboratory Planning Initiative grant F30602-93-c-0039 (with J.A. Hendler and A. Agrawala, University of Maryland), (my share \$225,000) (3/93-3/96).

- “*Exploring Fundamental Utility Tradeoffs in Plan Reuse*,” Research Initiation Award, National Science Foundation, \$90,000, IRI-9210997, (7/92-12/95)

## *Graduate Student Dissertations, Theses and Projects supervision*

### *Ph.D. Dissertations*

- (1) **Yuheng Hu**, Ph.D. 2014. Worked on event analytics for social media. Currently on the faculty at University of Illinois, Chicago.
- (2) **Kartik Talamadupula**, Ph.D. 2014. Worked on planning for human-robot teaming. Currently Research Staff Member at IBM Watson Labs.
- (3) **Tuan Nguyen**, Ph.D. 2014. Worked on planning with partial preferences and domain models. Currently at Mathworks.
- (4) **Sushovan De**, Ph.D. 2014. Worked on Data Rectification for Big Data. Currently at Google.
- (5) **William Cushing**, Ph.D. 2012. Worked on the foundations of temporal planning. Currently a post-doctoral fellow at UC Berkeley (with Prof. Stuart Russell).
- (6) **J. Benton**, Ph.D. 2012. Worked on partial satisfaction planning. Currently a research scientist at SIFT LLC.
- (7) **Raju Balakrishnan**, Ph.D. 2012. Worked on deep web source selection. Currently at Groupon.
- (8) **Menkes van den Briel**, Ph.D. 2008. Worked on AI & OR Techniques for scaling up Automated Planning. *Honorable Mention for ICAPS Best Dissertation Award", 2009*. First Employment: Research Faculty Member at University of Colorado (Leeds Business School).
- (9) **Daniel Bryce**, Ph.D. 2007. Worked on scaling up planning under uncertainty. *Winner of ICAPS Best Dissertation Award, 2009*. Currently Assistant Professor at Utah State University (Computer Science Department).
- (10) **Ullas Nambiar**, Ph.D. 2005. Worked on supporting imprecise queries over autonomous databases. Currently research scientist at IBM India Research Labs.
- (11) **Romeo Sanchez**, Ph.D. 2005. Worked on reachability heuristics for planning. Currently research scientist at USC/Information Sciences Institute.
- (12) **Binhminh Do**, Ph.D. August 2004. Worked on metric Temporal Planning--the SAPA project. *Winner of the Department Outstanding Ph.D. Student Award, 2005 (also ASU nominee for ACM Distinguished Dissertation Award)*. *Also received an honorable mention for 2010 ICAPS 10-year Influential Paper Award*. Currently a Research Scientist at PARC (formerly called Xerox Palo Alto Research Labs).
- (13) **Zaiqing Nie**, Ph.D. Spring 2004. Worked on multi-objective query optimization and similarity queries for Havasu Data Integration system. Currently with Microsoft Research Asia.
- (14) **Terry Zimmerman**, Ph.D. 2003. Dissertation on Effective use of memory in Graphplan. Currently Post Doctoral Fellow at CMU Robotics Institute.
- (15) **Biplav Srivastava**, Ph.D. Dissertation: "*Efficient Planning by Effective Resource Reasoning*". March 2000. M.S. Thesis: "*Using refinement search to unify and synthesize classical planners*" (1996). Currently at IBM India Research Labs, New Delhi.
- (16) **Amol D. Mali**, Ph.D. Dissertation: "*Hierarchical task network planning as Satisfiability*," Ph.D. 1999. Current position: Assistant Professor, University of Wisconsin, Milwaukee.

- (17) **Xiaomin Li**. Ph.D. Dissertation: “*ASUPPA: Interactive and Iterative Framework for Process Planning*” Ph.D. 2001. Quest Communication, Denver.
- (18) **Laurie Ihrig**, Ph.D. Dissertation: “*Improving planning performance through derivational replay.*” (1996). Boeing Corp., Phoenix.

### ***M.S. Theses***

- (1) **Sarath Sreedharan**. M.S. 2016. Worked on multi-agent planning. Continuing Ph.D.
- (2) **Vignesh Narayanan**. M.S. 2015. Worked on human-factors analysis of automated planning for human-robot teaming. First Employment: Amazon.
- (3) **Anirudh Acharya**. M.S. 2015. Worked on joint topic modeling for tweet/event alignment. First Employment: Yahoo!
- (4) **Tejas Mallapura Umamaheshwar**. M.S. 2015. Worked on Hashtag Recovery for Twitter Messages. First Employment: Mathworks.
- (5) **Manikandan Vijaykumar**, M.S. 2014. Worked on Hashtag Recovery for Twitter Messages. First Employment: American Express.
- (6) **Preet Inder Singh Rihan**, M.S. 2013. Worked on query processing for probabilistic data. First Employment: Blomberg LP R&D.
- (7) **Srijith Ravikumar**, M.S. 2013. Worked on ranking tweets. First Employment: Amazon.
- (8) **Manish Jha**, M.S. 2011. Worked on topic-sensitive source rank for deep web sources. First Employment: Amazon.
- (9) **Rohit Raghunathan**, M.S. 2011. Worked on principled probabilistic frameworks for query processing over autonomous databases in the presence of incompleteness. First Employment: Amazon.
- (10) **Chris White**, (Integrated) M.S. 2011. Worked on distributed approaches to Taxi World. First Employment: Lockheed Martin. .
- (11) **Sanil Salvi**, M.CS 2009. Worked on integrating databases on the web in the absence missing primary-foreign key relations.
- (12) **Ravi Gummadi**, M.S. 2009. Worked on integrating databases on the web in the absence missing primary-foreign key relations. Currently at Microsoft, Silicon Valley.
- (13) **Anupam Khulbe**, M.S. 2009. Worked on integrating databases on the web in the absence missing primary-foreign key relations. Currently at Amazon.
- (14) **Garrett Wolf**, MCS 2008. Worked on handling incompleteness and imprecision in autonomous databases. Department Outstanding Masters Student Award. 2008.
- (15) **Aravind Kalavagattu**, M.S. 2008. Worked on learning approximate functional dependencies from data. Currently at Yahoo.
- (16) **Bhaumik Chokshi**, M.S. 2007. Worked on overlap-aware techniques for collection selection. Currently at MSN Search Live.
- (17) **Hemal Khatri**, M.S. 2006. Worked on handling incompleteness in autonomous databases. Currently at MSN Search Live. **Winner of the Department Outstanding M.S. Student Award, 2007..**
- (18) **Jianchun Fan**, M.S. 2006. Worked on multi-objective query optimization for data aggregation. Currently at Amazon.

- (19) **Thomas Hernandez**, M.S. 2004. Worked on collection selection with overlapping text collections. Currently at Amazon. **Winner of the Department Outstanding M.S. Student Award, 2005.**
- (20) **Sreelakshmi Vaddi**, M.C.S. 2003. Worked on execution issues in data integration.
- (21) **XuanLong Nguyen**, M.S. 2001 Thesis: “*Heuristic Search Control for Plan Synthesis Algorithms and Dynamic Constraint Satisfaction Problems*”
- (22) **Senthil Gnanaprakasam**, M.S 2001. Thesis: “*A System-R style Join Order Optimization for Internet Information Gathering.*” Currently at Intel, Seattle.
- (23) **Eric Lambrecht**, M.S. Student. RA since Fall 1996. M.S. thesis: “*Optimizing Recursive Information Gathering Plans,*” Founded *shareyourworld.com.*, San Francisco.
- (24) **Yong Qu**, M.S. Thesis: “*Extending EBL framework to planning with expressive action representations*” (1996). Currently at Microsoft Corp., Seattle.
- (25) **Suresh Katukam**, M.S. Thesis: “*Explanation based learning for search control rules for partial order planning*” (1995). Currently at Hypercom, Phoenix.
- (26) **Bulusu Gopi Kumar**, M.C.S. Project: “*Systematic and complete dependency directed backtracking* (1994)
- (27) **Eric Cohen**. M.C.S. Project: “*Minimality based pruning techniques for Partial Order Planning*” (1993)
- (28) **Dennis Chen**, M.C.S. Project: “*Comparisons beteen Opaque and Interleavable macros,*” (1993)
- (29) **Jengchin Chen**, M.C.S. Project: “*Relative utility of EBG based plan reuse in total order vs. partial order planning,*” (1992)

## ***Professional Activities and Service to the Research Community***

- **President, Association for the Advancement of Artificial Intelligence. 2016-18.**
- **Trustee, Partnership for Artificial Intelligence. 2017-.**
- **Program Chair, Intl. Joint Conference on Artificial Intelligence, 2016. Trustee 2013-18.**
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- **Program Co-Chair; National Conference on Artificial Intelligence, 2005 (Pittsburgh, PA).**
- **Program Co-Chair; International Conference on Planning and Scheduling, 2013 (Rome, Italy)**
- **Steering Committee Member, IBM AI X-Prize. 2017-**
- **Track Co-Chair; AI and Web Track, National Conference on Artificial Intelligence, 2010.**
- **Program Co-Chair; AI Planning Systems Conference, 2000 (Breckenridge, CO)**
- **Executive Council Member (Elected), American Association for Advancement of Artificial Intelligence, 2009-2012.**
- **Executive Council Member, International Conference on Planning and Scheduling. 2002-2008.**
- **Conference Committee Chair, AAAI. 2012-14.**
- **Advisory Board Member, Journal of Artificial Intelligence Research (JAIR), 2008-present.**
- **Editorial Board Member, AI Magazine. 2007-2014**
- **Area Chair, International Joint Conference on Artificial Intelligence, 2007, 2013, 2015, 2017**
- **Senior Program Committee Member, National Conference on Artificial Intelligence, 2007, 2008, 2011, 2012, 2014.**
- **Senior Program Committee Member, International Joint Conference on Artificial Intelligence, 2009,2014.**
- **Program Committee Member, Intl. Conference on Planning and Scheduling, 2007, 2008, 2009, 2010, 2011, 2012, 2017.**
- **Editorial Board Member, IEEE Intelligent Systems. 2003-present**
- **Editorial Board Member, ACM Trans. on Intelligent Systems and Technology. 2012-present.**
- **Senior Program Committee Member, National Conference on Artificial Intelligence, 2006.**
- **Program Committee Member, Intl. Conference on Planning and Scheduling, 2006.**
- **Program Committee Member, European Semantic Web Conference, 2007.**
- **Program Committee Member, Intl. Conference on Planning and Scheduling, 2005. (Also organized the first-ever *Festivus*).**
- **Associate Editor, Journal of Artificial Intelligence Research (JAIR), 2003-2007.**
- **Executive Council Member, AI Planning and Scheduling Conference. 2000-2002**
- **Maintainer of Planning List Digest, a mailing list for AI Planning researchers, 1996-.**
- **Member, Editorial Board, Journal of Artificial Intelligence, 1995-97**
- **Co-Chair, IJCAI Workshop on Intelligent Information Integration on the Web. 2003.**



- Co-Editor, Special Issue on Intelligent Information Integration. IEEE Intelligent Systems. 2003.
  - Editor, Special Issue on Planning and Scheduling of the journal Constraints. 2001.
  - Program Committee member, National Conference on AI, 2003.
  - Program Committee member, AAMAS, 2003.
  - Program Committee member, 13th International Conference on Planning and Scheduling. 2003.
  - Program Committee member, Intl. Conference on Autonomous and Multi-Agent Systems, 2003.
  - Program Committee member, Intl. Conf. on Knowledge Based Computer Systems.2002.
  - Program Committee member. European Conference on Planning. Toledo, Spain. September, 2001.
  - Reviewer, IJCAI 2001.
  - Program Committee Member and Session Chair, ACM SIGMOD Conference (ACM conference on Databases). Dallas, TX in May 2000.
  - Program committee member. National Conference on AI. July 2000.
  - Organizing Committee member. AAI workshop on CSP approaches to planning. July 2000.
  - Program committee member, 5th European Conference on Planning, Durham, UK, September 2000.
  - Organizing Committee Member, AAI Spring Syposium on Search in uncertain, incomplete and Dynamic environments. Held at Stanford, CA, March 1999.
- Reviewer, and Challenge paper coordinator, International Joint Conference on Artificial Intelligence, held at Stockholm, Sweden. August 1999.
- Program committee member and session chair, 15th National Conference on AI. Held at Madison, Wisconsin, July 1998.
  - Program committee member and session chair, 4th AI Planning Systems Conference. Held at Pittsburgh, PA, May, 1998.
  - Co-organizer, Workshop on planning as combinatorial search, 4th AI Planning Systems Conference, 1998.
  - Program committee member, ASME Conference on Design for Manufacturing, 1998.
  - Program committee member, 13th National Conference on AI, 1996.
  - Workshop Chair, 13th National Conference on Artificial Intelligence, 1996
  - Program Committee Member, 3rd European Planning Workshop, Assisi, Italy, 1995.
  - Program Committee Member, 2nd International Conf. on AI Planning Systems, Chicago, 1994.
  - Organizing Committee Member, AAI Fall Symposium on “Adaptation of Knowledge for Reuse,” 1995.
  - *Chair*, 1992 AAI Spring Symposium on Computational Considerations in Supporting Modification and Reuse (March 1992)
  - *Program Committee Member and Session Chair*, 10th National Conference on Artificial Intelligence (AAAI-92)
  - *Program Committee Member and Session Chair*, 1st International Conferences on AI Planning Systems, College Park, MD, 1992.
  - Organizing Committee Member, AAI 1993 Spring Symposium on Foundations of Automatic Planning: The Classical Approach and Beyond

- Proposal Reviewer, National Science Foundation (1992)
- *Member*, American Association for Artificial Intelligence
- *Panel Member*, NSF KMCS proposal review panel, 1993; 1995; 1997; 1999; 2002.
- **Referee:**  
Journal of ACM, Artificial Intelligence Journal, Machine Learning, Journal of AI Research, Journal of Logic and Computation, IEE Expert, IEEE Trans. on Systems, Man and Cybernetics, ASME Transactions on Computer-aided Manufacturing, IEEE Intl. Conference on Robotics and Automation, IEEE Intl. Conference on Applications of Artificial Intelligence.

## *Selected Media Coverage*

- Science Friday segment with Ira Flatow about AI & Security. February, 2017.
- Our Bots, Ourselves. The Atlantic. March 2017. (Print edition) (Quoted).
- China's Artificial Intelligence Boom. The Atlantic. Feb 2017. (Online) (Quoted).
- AAI and internationalization: An interview Leiphone; Feb 2017. (Interview)
- Asm pretenden Google, Apple y el resto de gigantes educar a la inteligencia artificial; Article on Partnership for AI; El Diario. Feb 2017. (Quoted).
- Coverage about the inaugural board of trustees for the Partnership for AI. (Jan 2017) (TechCrunch, Wallstreet Journal, Quartz, Inverse, MS Power User, The Tech Portal Forbes, Kabir News ). Tech Giants Team Up To Tackle The Ethics Of Artificial Intelligence. Quoted in an article on Partnership on AI, NPR All Tech Considered. September, 2016. Why tech giants are forming an AI coalition. Christian Science Monitor. September, 2016. (Quoted) Amazon, Facebook, Google, IBM og Microsoft skal samarbeide om kunstig intelligens, Digi.No (In Norwegian) (Quoted) (September 2016) Gemeinsame Standards ORF.at (Austrian site in German) (quoted) (September 2016)
- How 'human-aware' AI could save us from the robocalypse A write-up on IJCAI 2016 theme in PC World, ComputerWorld etc. July, 2016 The Difference Between Robot's Artificial Intelligence And Humans An interview on KJZZ Public Radio Station; 3/17/2016.
- Experts explain the biggest obstacles to creating human-like robots. Tech Insider. 3/6/2016
- Artificial Intelligence Just Mastered Go, But One Game Still Gives AI Trouble Discover Magazine (quoted in), 1/27/2016.
- Can AI solve information overload? CIO Magazine. (Quoted). 12/29/2015. Old School Photography Techniques are making a comeback: On Instagram (Phoenix New Times, 12/15)
- 18 AI researchers reveal the most impressive thing they've ever seen (TechInsider, 11/15)
- This phenomenon explains what everyone gets wrong about AI (TechInsider, 10/15)
- The future may be full of intentionally clumsy and apologetic robots (TechInsider, 10/15)
- I binge-watched 7 movies about artificial intelligence and the most accurate one was a cartoon (Business Insider, Australia; 8/15)
- 19 A.I. experts reveal the biggest myths about robots (Tech Insider; 10/15).
- HUMAN BRAINS ARE TOO PUNY and 15 more reasons why top researchers are obsessed with AI (Business Insider, India; 10/15)
- Los mejores filtros para que tus fotos sean un éxito en redes sociales, según la ciencia BBC Mundo (in Spanish) 6/15.
- Turns Out There Are a Lot of Academics Studying Photo Filters (Wired.com; 5/15)
- Which Instagram filter should you use? Science has the answer (Sydney Morning Herald; 5/15)
- Instagram Is Vast But Its Favorite Themes Are Surprisingly Few, Study Shows (ABC News Online; 10/14)
- Is Twitter Bad For Language? Statistical Analysis Says No (Huffington Post excerpts from the book Dataclysm which profiles our work on Twitter Language (9/14)
- Twitter Analysis of Public Opinion (PBS Horizon, 10/13). Tapping Twitter data for in-depth analysis of public opinion (ASU News; 9/13)

- Professors using blogs, podcasts as teaching tools (The Arizona Republic and other venues; 2/07)