

Embedded Reasoning Area,
Intelligent System Lab,
Palo Alto Research Center
3333 Coyote Hill Rd,
Palo Alto, CA 94304

Phone: (650) 812-4346
Fax: (650) 812-4334
Email: minhdo@parc.com
URL: <http://www2.parc.com/isl/members/minhdo/>

Research Interests

Artificial Intelligence, with emphasis on intelligent planning and scheduling. Especially planning systems that can handle real-world problems involving complex temporal and resource constraints. In particular: metric temporal planning, multi-objective planning, planning and scheduling with soft-constraints and preferences, planner and scheduler integration, planning and scheduling as Constraint Satisfaction Problems (CSP), and learning in planning.

Education

- Ph.D** Computer Science and Engineering, **Arizona State University** May 2004
Advisor: *Professor Subbarao Kambhampati*.
Dissertation: *Building a Scalable Multi-Objective Metric Temporal Planner*
(Nominated by Arizona State Univ. for ACM Doctoral Dissertation Award)
- B.S.** Computer Science (*summa cum laude*), **POSTECH University**, South Korea Jan 1999

Publications

Refereed Journals

1. 'SAPA: A Multi-Objective Metric Temporal Planner'. Minh B. Do and Subbarao Kambhampati. *Journal of Artificial Intelligence Research*, 20 (p.155-194), 2003. *Special Issue on the Third International Planning Competition*.
2. 'Planning as Constraint Satisfaction: Solving the Planning Graph by Compiling it into CSP'. Minh B. Do and Subbarao Kambhampati. *Artificial Intelligence Journal*, 132 (p.151-182), 2001.
3. 'Planning the Project Management Way: Efficient Planning by Effective Integration of Causal and Resource Reasoning in RealPlan'. Biplav Srivastava, Subbarao Kambhampati, and Minh B. Do. *Artificial Intelligence Journal*, 131 (p.73-134), 2001.
4. 'AltAlt: Combining Graphplan and Heuristic State Search'. Biplav Srivastava, XuanLong Nguyen, Subbarao Kambhampati, Minh B. Do, Ullas Nambiar, Zaiqing Nie, Romeo Nigenda, and Terry Zimmerman. *Artificial Intelligence Magazine* 22(3) (p.88-90), 2001.

Refereed Conferences

5. 'Planning for Modular Printers: Beyond Productivity'. Minh B. Do, Wheeler Ruml, and Rong Zhou. To appear in the 18th *International Conference on Automated Planning and Scheduling (ICAPS08)*.
6. 'On-line Planning and Scheduling: An Application to Controlling Modular Printers'. Minh B. Do, Wheeler Ruml, and Rong Zhou. In the *Proc. of 23rd AAAI Conference on Artificial Intelligence (AAAI08)*, *NECTAR Track*.

7. 'Pervasive Diagnosis: the Integration of Active Diagnosis into Production Plans'. Lukas Kuhn, Bob Price, Johan de Kleer, Minh Do, and Rong Zhou. In the *Proc. of 23rd AAI Conference on Artificial Intelligence (AAAI08), Integrated Intelligent System Track*.
8. 'Planning with Goal Utility Dependencies'. Minh B. Do, J. Benton, Subbarao Kambhampati, and Menkes van den Briel. In *Proc. of 20th International Joint Conference on Artificial Intelligence (IJCAI), 2007*.
9. 'Best-first Utility-guided Search'. Wheeler Ruml and Minh B. Do. In *Proc. of 20th International Joint Conference on Artificial Intelligence (IJCAI), 2007*.
10. 'Domain Independent Approaches for Finding Diverse Plans'. Biplav Srivastava, Subbarao Kambhampati, Tuan Nguyen, Minh B. Do, Alfonso Gerevini, Ivan Serina. In *Proc. of 20th International Joint Conference on Artificial Intelligence (IJCAI), 2007*.
11. 'Decompose Document Image Using Integer Linear Programming'. Yizhou Wang, Dashan Gao, Haitham Hindi, and Minh B. Do. In *Proc. of 9th International Conference on Document Analysis and Recognition (ICDAR), 2007*.
12. 'Beyond Scheduling: Using On-line Planning to Control Printers'. Minh B. Do, Wheeler Ruml, Rong Zhou. In *Proc. of the 1st Annual XIG Research and Technology Conference, 2006*.
13. 'Lessons Learned in Applying Domain-Independent Planning to High-Speed Manufacturing'. Minh Do and Wheeler Ruml. In *Proc. of the 16th International Conference on Automated Planning and Scheduling (ICAPS), 2006*, poster paper.
14. 'Over-subscription Planning with Metric Goals'. J. Benton, Minh B. Do, & Subbarao Kambhampati. In *Proc. of the Nineteenth International Joint Conference on Artificial Intelligence (IJCAI), 2005*.
15. 'On-line Planning and Scheduling for High-speed Manufacturing'. Wheeler Ruml, Minh B. Do, & Markus Fromherz. In *Proc. of the 15th International Conference on Automated Planning and Scheduling (ICAPS), 2005*. (**Best Application Paper Award**)
16. 'Effective Approaches for Partial Satisfaction (Over-Subscription) Planning'. Menkes van den Briel, Romeo Sanchez, Minh B. Do, and Subbarao Kambhampati. In *Proc. of Nineteenth National Conference on Artificial Intelligence (AAAI), 2004*.
17. 'Partial Satisfaction (Over-Subscription) Planning as Heuristic Search'. Minh B. Do and Subbarao Kambhampati. In *Proc. of the Fifth International Conferences on Knowledge-Based Computer Systems (KBCS), 2004*
18. 'Improving the Temporal Flexibility of Position Constrained Metric Temporal Plans'. Minh B. Do and Subbarao Kambhampati. In *Proc. of the 13th International Conference on Artificial Intelligence Planning and Scheduling (ICAPS), 2003*.
19. 'Planning Graph-based Heuristics for Cost-sensitive Temporal Planning'. Minh B. Do and Subbarao Kambhampati. In *Proc. of the Sixth International Conference on Artificial Intelligence Planning & Scheduling (AIPS), p.3-12, 2002*.
20. 'SAPA: A Domain-Independent Heuristic Metric Temporal Planner'. Minh B. Do and Subbarao Kambhampati. In *Proc. of the European Conference on Planning (ECP), 2001*.
21. 'Solving the Planning Graph by Compiling it to CSP'. Minh B. Do and Subbarao Kambhampati. In *Proc. of the Fifth International Conference on Artificial Intelligence Planning and Scheduling (AIPS), p.82-91, 2000*.

22. 'Investigating the Effects of Relevance and Reachability Constraints in SAT Encoding of Planning'. Minh B. Do, Biplav Srivastava, and Subbarao Kambhampati. In *Proc. of the Fifth International Conference on Artificial Intelligence Planning and Scheduling (AIPS)*, p.308-314, 2000.

Refereed Workshops

23. 'On-line Anticipatory Planning'. Allen Hubbe, Wheeler Ruml, Sungwook Yoon, J. Benton, Minh B. Do. To appear in the *Workshop on A Reality Check for Planning and Scheduling Under Uncertainty, ICAPS08*.
24. 'Heuristic Search for Target-Value Path Problem'. Lukas Kuhn, Tim Schmidt, Bob Price, Johan de Kleer, Rong Zhou, and Minh Do. In the *Proc. of 1st International Symposium on Search Techniques in Artificial Intelligence and Robotics (STAIR-08)*.
25. 'A Framework for Continuously Estimating Persistent and Intermittent Failure Probabilities'. Johan de Kleer, Bob Price, Lukas Kuhn, Minh Do, and Rong Zhou. To appear in *The 19th International Workshop on Principles of Diagnosis (DX-08)*.
26. 'Pervasive Diagnosis: the Integration of Active Diagnosis into Production Plans'. Lukas Kuhn, Bob Price, Johan de Kleer, Minh Do, and Rong Zhou. To appear in *The 19th International Workshop on Principles of Diagnosis (DX-08)*.
27. 'Beyond Planning for Productivity'. Minh B. Do, Rong Zhou, and Wheeler Ruml. In *Proc. of the 2nd XIG Conference*, 2008.
28. 'Adaptive Production Strategy'. Lukas Kuhn, Johan de Kleer, Robert Price, Minh Do, Rong Zhou. In *Proc. of 2nd XIG Conference*, 2008.
29. 'Planning with Goal Utility Dependencies'. Minh B. Do, J. Benton, and Subbarao Kambhampati. In *Proc. of Workshop on Preferences and Soft Constraints, ICAPS 2006*.
30. 'Finding Inter-Related Plans'. Biplav Srivastava, Subbarao Kambhampati, Minh B. Do, & Tuan A. Nguyen. In *Proc. of Workshop on Plan Analysis and Management, ICAPS, 2006*.
31. 'YochanPS: PDDL3 Simple Preferences as Partial Satisfaction Planning'. J. Benton, Subbarao Kambhampati, & Minh B. Do. In *The Fifth International Planning Competition Booklet*, 2006.
32. 'Planning-Scheduling Connections through Exogenous Events'. In *Proc. of Workshop on Integrating Planning into Scheduling (WIPIS), ICAPS 2004*.
33. 'The Inspection of Metric-Temporal Plans within the SAPA Planning Framework'. Daniel Bryce, Minh B. Do, & Subbarao Kambhampati. In *Proc. of the ICAPS-2003 Software Demonstration*, 2003.
34. 'Improving the Temporal Flexibility of Position Constrained Metric Temporal Plans'. Minh B. Do & Subbarao Kambhampati. In *Proc. of the AIPS-2002 Temporal Planning Workshop*, 2002.
35. 'Loosely Coupled Architecture to Integrate Planning and Scheduling Systems'. Minh B. Do, Biplav Srivastava, and Subbarao Kambhampati. In *Proc. of the IJCAI-01 Workshop on Planning with Resource*, 2001.
36. 'On the Use of LP Relaxation in Solving SAT Encoding of Planning Problems'. Minh B. Do and Subbarao Kambhampati. In *Proc. of the AAAI-2000 Workshop on the Integration of AI and OR*, 2000.

Services and Membership in Professional Organizations

Organizer:

- Co-chair, 6th International Planning Competition, 2008.
- Industrial-chair, 10th Pacific Rim International Conference on Artificial Intelligence (PRICAI), 2008.
- Co-chair, Workshop on Planning Competition, ICAPS 2007.

PC Member:

- The 23rd National Conference on Artificial Intelligence ([AAAI](#)), 2008.
- The AI Nectar track, AAAI 2008.
- The 18th International Conference on Automated Planning & Scheduling ([ICAPS](#)), 2008.
- The 10th Pacific Rim International Conference on Artificial Intelligence ([PRICAI](#)), 2008
- CP/ICAPS 2008 Workshop on Constraint Satisfaction for Planning and Scheduling Problems ([COPLAS'08](#)).
- ICAPS 2008 Workshop on Oversubscribed Planning & Scheduling, 2008.
- The 17th International Conference on Automated Planning and Scheduling, ICAPS 2007.
- The 22nd National Conference on Artificial Intelligence, AAAI 2007
- The 20th International Joint Conference on Artificial Intelligence, IJCAI 2007.
- Workshop on CSP Technique for Planning & Scheduling, ICAPS 2007.
- The AI Nectar track, AAAI 2007.
- Workshop on Constraint Satisfaction Technique for Planning, ICAPS 2007.
- The 21st National Conference on Artificial Intelligence, AAAI 2006.
- The 16th International Conference on Automated Planning and Scheduling, ICAPS 2006.
- The Nectar (New sScientific and Technical Advances in Research) track, AAAI 2006.
- The 1st International Conference on Theories & Applications of Computer Science (TACS), 2006.
- The 20th National Conference on Artificial Intelligence, AAAI 2005.

Reviewer:

- Journal of Artificial Intelligence Research (JAIR)
- Artificial Intelligence Journal (AIJ)
- Journal of Automated Reasoning (JAR)
- AI Communications – The European Journal on Artificial Intelligence (AICom).
- IEEE Intelligent Systems.
- Student Abstract Program, AAAI 2006.
- The Nineteenth International Joint Conference on Artificial Intelligence, IJCAI 2005.

Auxiliary Reviewer: ICAPS05, AAAI04, WIPIS04, ICAPS04, IW PSS04, AIPS02, ECP01, IJCAI01, AIPS00, AAAI00

Volunteer: AAAI99, IJCAI01

Member of American Association for Artificial Intelligence (AAAI), 1999-now

Pending Patents: 11

Awards and Honors

- Distinguished Performance Award in the Fifth International Planning Competition 2006
- Outstanding performance (awarded by PARC for TIPP team) 2006
- Best Ph.D. Graduate in Computer Sci. & Eng. Department, Arizona State University 2005
- Best Application Paper Award, ICAPS Conference 2005
- Nominated by Arizona State University for ACM Doctoral Dissertation Award 2004
- Doctoral Consortium Scholarship to attend the Doctoral Consortium and ICAPS conference 2003
- AAAI full assistantship to attend PLANET's Planning Summer School 2003
- Participated in the Third International Planning Competition (IPC3), one of five domain-independent planners invited to submit a paper to JAIR's Special Issue on IPC3 2002
- Arizona State University Academic Scholarship 2000-2002
- RIACS Internship at NASA Ames Research Center 2001
- Conference Travel Assistantship: AIPS02, IJCAI01, AAAI99
- POSCO Company's full scholarship for undergraduate study in South Korea 1994-1998
- Government Scholarship for undergraduate study in Russia or Hungary (declined) 1993
- Government Scholarship (highest level) at Hanoi University of Technology 1992-1993
- Member of Hanoi Univ. of Tech. math team, won the 3rd prize in Vietnam Univ. Math Olympiad 1993
- Top scorer in the entrance examinations of Hanoi Constructional Univ. & Thanglong College 1992
- Member of the six-person team representing Hanoi City at the National Mathematics Competition 1992

Student Advising:

Co-advisor: J. Benton, Arizona State University, Master Thesis (2004)

Tuan Nguyen, Vietnam National University, Hochiminh City, Master Thesis.

References

Available upon request.