

ESRA ERDEM

CURRICULUM VITAE

CONTACT INFORMATION

Sabancı University

Faculty of Engineering and Natural Sciences

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RESEARCH INTERESTS

Artificial intelligence. In particular, the mathematical foundations of knowledge representation, reasoning about actions and change, and answer set programming, and their applications to computational biology, biomedical informatics, and robotics.

EDUCATION

Ph.D. (Computer Sciences), The University of Texas at Austin, 2002.

Dissertation: *Theory and applications of answer set programming.*

Advisor: Vladimir Lifschitz.

Thesis committee: Chitta Baral, J. Strother Moore, Tandy Warnow, Martin D. F. Wong.

M.S. (Computer Sciences), The University of Texas at Austin, 1998.

B.S. (Computer Sciences), Bilkent University, 1996, with high honors.

EMPLOYMENT HISTORY

- 11/2012–present Sabancı University.
Associate professor, Faculty of Engineering and Natural Sciences.
- 1/2015–present Interact Technologies.
Co-founder, Research and Development Director.
- 9/2006–11/2012 Sabancı University.
Assistant professor, Faculty of Engineering and Natural Sciences.
- 9/2003–8/2006 Vienna University of Technology.
Post-doctoral researcher, Knowledge-Based Systems Group (Thomas Eiter).
Monitoring of plan execution, and updates of action domain descriptions.
- 8/2002–8/2003 University of Toronto.
Post-doctoral fellow, Cognitive Robotics Group (Hector Levesque and Ray Reiter).
The situation calculus and cognitive robotics.
- 1/1999–8/2002 University of Texas at Austin.
Research assistant, Department of Computer Sciences (Vladimir Lifschitz).
The mathematical theory of logic programming, knowledge representation, reasoning about actions and change, planning, and answer set programming.
- 6/2001–8/2001 IBM, Austin Research Lab.
Intern, Formal Verification Group (Warren Hunt and Jun Sawada).
The design and the implementation of a program to be used for hardware verification.
- 8/1996–12/2001 University of Texas at Austin.
Teaching assistant, Department of Computer Sciences.

AWARDS AND HONORS

BAGEP, Young Scientist Award by the Science Academy, 2015.

Finalist for Best Conference Paper Award, Finalist for Best Cognitive Robotics Paper Award, IEEE/RAS ICRA 2015.

NATO Science Fellowship, 1996–2002.

Travel Award, The University of Texas at Austin, The Department of Computer Sciences, 1999 and 2001.

GTE Corporation Fellowship, 1997.

TA-Service Commendation, The University of Texas at Austin, The Department of Computer Sciences, 1997.

Full Scholarship, Bilkent University, 1992–1996.

RESEARCH FUNDING

PRINCIPAL INVESTIGATOR

Knowledge-Based Reasoning for Autonomous Robots to Guide Humans in Complex Environments, 10/2014–10/2017.

(as part of the FP7 ERA-Net *COACHES* project) The Scientific and Technical Research Council of Turkey, The Support Programme for Scientific and Technological Research Projects (1001).

Rehabilitation Robotics Ontology System on the Cloud: Representing and Querying Big Data, 10/2014–10/2016.

(Co-PI: Volkan Patoglu) Sabancı University, Internal Research Grant.

Cognitive Factories, 10/2011–4/2014.

The Scientific and Technical Research Council of Turkey, The Support Programme for Scientific and Technological Research Projects (1001).

Towards Intelligent, Interactive, Personalized Robot-Assisted Physical Rehabilitation, 9/2009–9/2011.

(Co-PI: Volkan Patoglu) Sabancı University, Internal Research Grant.

Integration of Biomedical Ontologies and Automated Reasoning for Drug Discovery, 6/2009–12/2011.

The Scientific and Technical Research Council of Turkey, The Support Programme for Scientific and Technological Research Projects (1001).

Inferring the Evolutionary History of Turkic Languages using Answer Set Programming, 2/2008–2/2010.

The Scientific and Technical Research Council of Turkey, The Support Programme for Scientific and Technological Research Projects (1001).

PARTNER

Cooperative Autonomous Robots in Complex and Humans Environments (COACHES), 10/2014–10/2017.
European Union under the ERA-Net funding scheme of the FP7 (CHIST-ERA).

COURSES TAUGHT

FACULTY MEMBER (Sabancı University)

CS301, Algorithms	(Fall 2011)
CS400/500, Logic in Computer Science	(Spring 2007, Spring 2008, Spring 2010, Spring 2011, Fall 2014–2016)
CS404, Artificial Intelligence	(Fall 2008, Fall 2009, Fall 2012, Spring 2015)
CS502, Automated Reasoning	(Spring 2007, Spring 2013)
CS504, Knowledge Representation and Reasoning	(Fall 2007, Fall 2008, Fall 2010, Fall 2015)
CS506, Cognitive Robotics	(Spring 2010, Spring 2012, Spring 2013)
CS526, Motion Planning	(Fall 2014, Spring 2016)
CS581, Special Topics in CS	(Fall 2006)
CS611, Advanced Topics in Artificial Intelligence	(Spring 2008, Spring 2009, Spring 2011, Fall 2012)
CS551, Graduate Seminar I	(Fall 2006–2009, 2016)
CS552, Graduate Seminar II	(Spring 2007–2010, 2015)
PROJ 102	(Fall 2007–2016)
ENS 491/2	(Fall/Spring 2007–2016)

TEACHING ASSISTANT (University of Texas at Austin)

CS388L, Introduction to Mathematical Logic	(Fall 1999, Fall 2001)
CS307, Foundations of Computer Science	(Fall 1997, Spring 1998, Fall 1998)
CS315, Computer Science II	(Spring 1997)
CS373, Software Engineering	(Fall 1996)

THESIS COMMITTEES AND OTHER ADVISING

POSTDOCTORAL FELLOWS

3. Dr. Eray Gencay (Summer 2013–Summer 2015, Sabancı University)
Optimization and Verification of Automotive Product Configurations using Answer Set Programming
2. Dr. Peter Schueller (Fall 2012–Summer 2013, Sabancı University) (co-supervisor: Volkan Patoglu)
Applications of Answer Set Programming in Cognitive Robotics
1. Dr. Damien J. Duff (Fall 2012–Summer 2013, Sabancı University) (co-supervisor: Volkan Patoglu)
Robust Physical Cognition for Applications in Computer Vision by Exploiting Knowledge of Rigid Body Dynamics

DOCTORAL COMMITTEE SUPERVISOR

3. Yusuf Izmirlioglu (Fall 2015–present, Sabancı University)
2. Gokay Coruhlu (Fall 2015–present, Sabancı University) (co-supervisor)
1. Ahmed Nouman (Spring 2013–present, Sabancı University) (co-supervisor)

MASTERS COMMITTEE SUPERVISOR

15. Momina Rizwan (Spring 2016–present, Sabancı University) (co-supervisor)
14. Faseeh Ahmad (Spring 2016–present, Sabancı University) (co-supervisor)
13. Omid Khorsand Kazemy (Fall 2015–present, Sabancı University)
12. Ibrahim Faruk Yalciner (Spring 2015–present, Sabancı University)
11. Ezgi Demirel (Fall 2014–present, Sabancı University)
10. Zeynep Gozen Saribatur (Fall 2012–Summer 2014, Sabancı University) (co-supervisor: Volkan Patoglu)
Optimal Global Planning for Cognitive Factories with Multiple Teams of Heterogeneous Robots
9. Zeynep Dogmus (Fall 2011–Summer 2013, Sabancı University) (co-supervisor: Volkan Patoglu)
An Ontology System for Rehabilitation Robotics
8. Erdi Aker (Fall 2010–Summer 2013, Sabancı University) (co-supervisor: Volkan Patoglu)
Housekeeping with Multiple Autonomous Robots: Representation, Reasoning, and Execution
7. Suha Orhun Mutluergil (Fall 2010–Summer 2012, Sabancı University)
Applications of Heuristic Search on Phylogeny Reconstruction Problems
6. Umut Oztok (Fall 2010–Summer 2012, Sabancı University)
Generating Explanations for Complex Biomedical Queries
5. Halit Erdogan (Fall 2009–Summer 2011, Sabancı University)
Finding Similar or Diverse Solutions in Answer Set Programming: Theory and Applications
4. Tansel Uras (Fall 2009–Summer 2011, Sabancı University) (co-supervisor: Volkan Patoglu)
Applications of AI Planning in Genome Rearrangement and in Multi-Robot Systems
3. Kadir Haspalamutgil (Fall 2009–Summer 2011, Sabancı University) (co-supervisor)
Multi-Robot Systems in Cognitive Factories: Representation, Reasoning, Execution and Monitoring
2. Can Palaz (Fall 2009–Summer 2011, Sabancı University) (co-supervisor)
Combining High-Level Causal Reasoning with Low-Level Geometric Reasoning and Motion Planning for Robotic Manipulation
1. Duygu Cakmak (Fall 2008–Summer 2010, Sabancı University)
Reconstructing Weighted Phylogenetic Trees and Phylogenetic Networks Using Answer Set Programming

DOCTORAL COMMITTEE MEMBER (EXTERNAL)

5. Fabien Lagriffoul (Spring 2016, Örebro University), Supervisors: Alessandro Saffiotti and Lars Karlsson
Combining Task and Motion Planning
4. Mustafa Ersen (Fall 2014, Istanbul Technical University), Supervisor: Sanem Sariel Talay
Learning Guided Reasoning for Cognitive Service Robots
3. Ahmetcan Erdogan (Summer 2014, Sabancı University), Supervisor: Volkan Patoglu
Optimal Exoskeleton Design and Effective Human-in-the-Loop Control Frameworks for Rehabilitation Robotics

2. Gunay Akin (Fall 2013, Bogazici University), Supervisor: Pinar Yolum Birbil
Developing An Effective Commitment Store for Agent Communication: Properties, Operations And Algorithms
1. Elisabetta De Maria (Spring 2009, University of Udine), Supervisor: Angelo Montanari
Computer Science Logic for Structure Prediction, String Comparison, and Biological Pathway Analysis

MASTERS COMMITTEE MEMBER

9. Mehmet Cagri Calpur (Fall 2011, Sabancı University), Supervisor: Cemal Yilmaz
Interleaving Coverage Criteria Oriented Testing of Multi-threaded Applications
8. Ugur Usug (Spring 2011, Istanbul Technical University), Supervisor: Sanem Sariel
Dynamic Temporal Planning for Multirobot Systems
7. Melda Ulusoy (Summer 2010, Sabancı University), Supervisor: Volkan Patoglu
Haptic Rendering of Continuous Parametric Models
6. Serdar Kecici (Spring 2010, Istanbul Technical University), Supervisor: Sanem Sariel
Tlplan-C: An Extended Temporal Planner for Modeling Continuous Change
5. Reyhan Yeniterzi (Summer 2009, Sabancı University), Supervisor: Kemal Oflazer
Syntax-to-Morphology Alignment and Constituent Reordering in Factored Phrase-Based Statistical Machine Translation from English to Turkish
4. Ferah Gulactı (Summer 2008, Sabancı University), Supervisor: Devrim Gözuacik
Search for Atg5 Interacting Proteins by Using Yeast Two Hybrid System
3. Ferhan Ture (Summer 2008, Sabancı University), Supervisor: Kemal Oflazer
A Hybrid Machine Translation System from Turkish to English
2. Onsel Armagan (Fall 2007, Sabancı University), Supervisor: Kemal Oflazer
LingBrowser – A NLP Based Browser For Linguistic Information
1. Muge Erdogmus (Summer 2007, Sabancı University), Supervisor: Ugur Sezerman
Application of automatic mutation-gene pair extraction to diseases

SENIOR PROJECT SUPERVISOR

27. Kubilay Karapinar (Fall 2016–present)
Multi-Agent Path Finding using AI Methods
26. Baris Yazici, Berke Atac (Fall 2016–present), Co-Supervisor: Volkan Patoglu
Intelligent Robots: Manipulation Planning
25. Aysenur Kulunk (Fall 2016–present)
Optimal Multi-Agent Path Finding using Integer Linear Programming
24. Izzet Pasensya (Fall 2016–present)
Optimal Multi-Agent Path Finding using Integer Linear Programming
23. Sude Gonul, Deniz Bayram (Spring 2016–present)
An Interactive Automated Theorem Prover
22. Veli Can Erdem (Spring 2016–present)
Optimal Multi-Agent Path Finding using Integer Linear Programming

21. Bahadır Pehlivan (Spring 2016–present)
Optimal Multi-Agent Path Finding using Answer Set Programming
20. Misra Turp (Fall 2015–Spring 2016), Co-Supervisor: Volkan Patoglu
Intelligent Robots: Multi-Robot Planning
19. Kazim Selim Engin (Fall 2015–Spring 2016), Co-Supervisor: Volkan Patoglu
Intelligent Robots: Manipulation Planning
18. Mehmet Berk Gedik (Spring 2015–Fall 2015)
Developing an Intelligent Agent to Play Angry Birds
17. Yigit Ozkan (Spring 2015), Co-Supervisor: Volkan Patoglu
Game AI for Physical Medicine
16. Rebi Daldal (Fall 2012–Spring 2013)
Multi-Agent Pathfinding: Theory and Applications
15. Ahmet Erdem Ekin (Fall 2011–Fall 2012)
Mobile AI Apps
14. Doga Gizem Kisa (Fall 2011–Spring 2012)
Environmental Coverage with Multiple Robots
13. Guchan Ozbilgin (Fall 2011–Spring 2012), Co-Supervisor: Volkan Patoglu
Cloud Robotics
12. Baris Dincer, Umut Gencay Zorlu (Fall 2011–Spring 2012)
Mobile AI Apps
11. Ozan Erdem (Fall 2009–Spring 2010)
Semantic web and life sciences
10. Erdi Aker, Berker Agir (Fall 2009–Spring 2010)
Intelligent robots: low-level control meets high-level reasoning
9. Selen Başol, Sinan Egilmez (Fall 2008–Spring 2009)
Semantic web and life sciences
8. Ozan Caldiran, Abdullah Ok (Fall 2008–Spring 2009), Co-Supervisor: Volkan Patoglu
Intelligent robots: low-level control meets high-level reasoning
7. Halit Erdogan (Fall 2008–Spring 2009)
Comparing phylogenies: theory and applications
6. Kadir Haspalamutgil, Can Palaz (Fall 2008–Spring 2009), Co-Supervisor: Volkan Patoglu
Intelligent robots: low-level control meets high-level reasoning
5. Seyma Mutlu (Fall 2008–Spring 2009)
Commonsense reasoning for interactive applications
4. Firat H. Tahaoglu (Fall 2008–Spring 2009)
Semantic web and life sciences
3. Tansel Uras (Fall 2008–Spring 2009), Co-Supervisor: Ugur Sezerman
Genome rearrangement: theory and applications

2. Kadir Malak (Fall 2007–Spring 2008), Co-Supervisor: Marco Aiello
Automating reasoning about web services
1. Betül Keles (Fall 2006–Spring 2007), Co-Supervisors: Devrim Gozuacik and Volkan Patoglu
Drug discovery-establishment of a cell-based drug testing system

FRESHMAN PROJECT SUPERVISOR

21. Berke Ozten, Muhammed Kerem Kahraman, Gursel Simin Soysal, Kerem Gultekin (Spring 2016)
Co-Supervisor: Ezgi Demirel
AI4PUZZLES
20. Batu Gokalp, Coruh Simsek (Spring 2015)
Intelligent Strategies for Angry Birds
19. Mehmet Can Erincag, Berke Koculu (Spring 2015)
Intelligent Strategies for Angry Birds
18. Danial Kadiri, Can Kulpedin (Spring 2015)
Intelligent Strategies for Angry Birds
17. Bora Makar (Spring 2015)
Intelligent Strategies for Angry Birds
16. Tarik E. Abdioglu, Can B. Ozturk, Nazli Siyok, Oyku Yucedere (Spring 2013)
Co-Supervisors: Zeynep Dogmus, Zeynep G. Saribatur
AI4PUZZLES
15. Burak Aydin, Fehmi C. Aksakal (Fall 2009)
Co-Supervisors: Ozan Erdem, Halit Erdogan, Firat H. Tahaoglu, Tansel Uras
AI4PUZZLES
14. Ferit C. Kocagil, Adnan Emiroglu (Fall 2009)
Co-Supervisors: Ozan Erdem, Halit Erdogan, Firat H. Tahaoglu, Tansel Uras
AI4PUZZLES
13. Berker Sarigun, Mehmet S. Basmaci (Fall 2009)
Co-Supervisors: Ozan Erdem, Halit Erdogan, Firat H. Tahaoglu, Tansel Uras
AI4PUZZLES
12. Ozge Oz, Can Terzihan (Fall 2009), Co-Supervisor: Volkan Patoglu
Collecting expert knowledge from medical professionals
11. Ahmet D. Ihtiyar, Merve Cebi (Fall 2009), Co-Supervisor: Volkan Patoglu
Collecting expert knowledge from medical professionals
10. Yigit S. Gucer, Birkan Suzer (Fall 2009), Co-Supervisor: Volkan Patoglu
Collecting expert knowledge from medical professionals
9. Mehmet C. Yilmaz (Fall 2009), Co-Supervisor: Volkan Patoglu
Collecting expert knowledge from medical professionals
8. Burcu Vitrinel, Ceren Bezzazoglu (Fall 2009), Co-Supervisor: Volkan Patoglu
Collecting expert knowledge from medical professionals

7. Cemal I. Islak (Fall 2009), Co-Supervisor: Volkan Patoglu
Collecting expert knowledge from medical professionals
 6. Fatma E. Kavalci, Gokce Tuncer, Fatih O. Yilmaz (Fall 2009), Co-Supervisor: Volkan Patoglu
Collecting expert knowledge from medical professionals
 5. Irem Aydin, Dilara Yegenoglu (Fall 2009), Co-Supervisor: Volkan Patoglu
Collecting expert knowledge from medical professionals
 4. Utku Kaymaz (Fall 2009), Co-Supervisor: Volkan Patoglu
Collecting expert knowledge from medical professionals
 3. Abdullah Caliskan (Fall 2009), Co-Supervisor: Volkan Patoglu
Collecting expert knowledge from medical professionals
 2. Gokhan Murtezaoglu (Fall 2009), Co-Supervisor: Volkan Patoglu
Collecting expert knowledge from medical professionals
 1. Can Yildiz, Elif Ozdogan, Deniz Altunlu (Fall 2007), Co-Supervisor: Ferhan Ture
Solving challenging grid puzzles with answer set programming
-

PROFESSIONAL ACTIVITIES

EDITORIAL BOARD MEMBER

- Journal of Artificial Intelligence Research (JAIR) (2014–2016)

STEERING COMMITTEE MEMBER

- Principles of Knowledge Representation and Reasoning, Incorporated (KR, Inc.) (2010–2014)

EVENT COORDINATION

- Co-Chair, International Joint Conference on Artificial Intelligence (IJCAI), Tutorial Track, 2016
- Co-Chair, AAAI Conference on Artificial Intelligence (AAAI), What's Hot Program, 2016
- Doctoral Consortium Co-Chair, International Conference on Logic Programming and Nonmonotonic Reasoning (LPNMR), 2015
- Co-Chair, AAAI Conference on Artificial Intelligence (AAAI), What's Hot Program, 2015
- Co-Chair, IJCAI Workshop, Hybrid Reasoning, 2015
- Co-Chair, IEEE/RSJ IROS Workshop, Task Planning for Intelligent Robots in Service and Manufacturing, 2015
- Co-Chair, Robotics: Science and Systems Workshop, on Combining AI Reasoning and Cognitive Science with Robotics, 2015
- Co-Chair, International Workshop on Cognitive Robotics (CogRob), 2014
- Co-Chair, AAAI Spring Symposium Series, Knowledge Representation and Reasoning in Robotics, 2014

- Track Chair, International Workshop on Non-Monotonic Reasoning (NMR), Systems and Applications, 2014
- General Co-Chair, International Conference on Logic Programming (ICLP), 2013
- Co-Chair, RSS Workshop, Combined Robot Motion Planning and AI Planning for Practical Applications, 2013
- Doctoral Consortium Co-Chair, International Conference on the Principles of Knowledge Representation and Reasoning (KR), 2012
- Co-Chair, International Symposium on Logical Formalizations of Commonsense Reasoning (CommonSense), 2011
- Special Theme Chair, International Conference on Logic Programming and Nonmonotonic Reasoning (LPNMR), 2009
- Session Co-Chair, International Workshop on Non-Monotonic Reasoning (NMR), Session on Declarative Programming Paradigms and Systems for NMR, 2008

SENIOR PROGRAM COMMITTEE MEMBER OR CONFERENCE ASSOCIATE EDITOR

- IEEE International Conference on Robotics and Automation (ICRA), 2017
- International Joint Conference on Artificial Intelligence (IJCAI), 2009, 2011, 2012, 2013, 2015, 2016, 2017
- AAI Conference on Artificial Intelligence (AAAI), 2012
- European Conference on Artificial Intelligence (ECAI), 2014, 2016

PROGRAM COMMITTEE MEMBER

- International Joint Conference on Artificial Intelligence (IJCAI), 2009, 2011, 2012, 2013, 2015, 2016
- AAI Conference on Artificial Intelligence (AAAI), 2004, 2005, 2006, 2007, 2008, 2010, 2011, 2012, 2013, 2014, 2015
- European Conference on Artificial Intelligence (ECAI), 2006, 2008, 2010, 2012, 2014, 2016
- IEEE International Conference on Robotics and Automation (ICRA), 2017
- International Conference on Principles of Knowledge Representation and Reasoning (KR), 2012, 2014, 2016
- International Conference on Logic Programming (ICLP), 2007, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016
- International Conference on Logic Programming and Nonmonotonic Reasoning (LPNMR), 2003, 2009, 2011, 2013, 2015
- International Conference on Autonomous Agents and Multiagent Systems (AAMAS), 2013, 2014
- International FLAIRS Conference (FLAIRS), Robotics Track, 2016
- International Conference on Agents and Artificial Intelligence (ICAART), 2015

- Extended Semantic Web Conference (ESWC), 2015
- Conference on Prestigious Applications of Intelligent Systems (PAIS), 2014
- International Conference on Web Reasoning and Rule Systems (RR), 2013
- Australasian Joint Conference on Artificial Intelligence (AI), 2008, 2009, 2010, 2011, 2012
- European Conference on Logics in Artificial Intelligence (JELIA), 2010, 2012
- Global Conference on Artificial Intelligence (GCAI), 2015
- International Conference on Applications of Declarative Programming and Knowledge Management (INAP), 2011
- International Conference on Industrial Engineering and Other Applications of Applied Intelligence (IEA/AIE), 2013
- International Conference on Artificial Intelligence: Methodology, Systems, Applications (AIMSA), 2014
- Türkiye Otonom Robotlar Konferansı (TORK), 2014–2016
- International Symposium on Practical Aspects of Declarative Languages (PADL), 2017
- International Symposium on Logic-based Program Synthesis and Transformation (LOPSTR), 2012
- International Symposium on Computer and Information Sciences (ISCIS), 2008, 2009
- International Symposium on Logical Formalizations of Commonsense Reasoning (CommonSense), 2005, 2007, 2009, 2011
- European Starting AI Researcher Symposium (STAIRS), 2010, 2012
- International Colloquium on Theoretical Aspects of Computing (ICTAC), 2008
- International Workshop on the Algorithmic Foundations of Robotics (WAFR), 2016
- International Workshop on Non-Monotonic Reasoning (NMR), 2004, 2008, 2010, 2014
- International Workshop on Constraint Modelling and Reformulation (ModRef), 2008, 2010
- International Knowledge Representation and Automatic Reasoning Workshop (RCRA), 2009, 2010, 2011, 2013, 2016
- Workshop on Constraint Based Methods for Bioinformatics (WCB), 2009, 2010, 2011, 2012
- Workshop on Dynamics of Knowledge and Belief Representation, Annual German Conference on Artificial Intelligence (KI), 2007
- Workshop on Logic Programming (WLP), 2011
- ICAPS Workshop on Combining Task and Motion Planning for Real-World Applications (TAMPRA), 2012
- International Workshop on Spatio-Temporal Dynamics (STeDy), 2012
- International Workshop on Cognitive Robotics (CogRob), 2012, 2014, 2016
- Workshop on Controlled Natural Language (CNL), 2014, 2016

- ICLP Workshop on Knowledge Representation and Reasoning in Robotics (KRR), 2013
- AAAI Workshop on Artificial Intelligence and Robotics (AIRob), 2014
- Workshop on Natural Language Processing and Automated Reasoning (NLPAR), 2013, 2015
- Robotics, Science and Systems Conference (RSS) Workshops, 2014
- IJCAI 2015 Workshop, Hybrid Reasoning, 2015
- IEEE/RSJ IROS 2015 Workshop on Task Planning for Intelligent Robots in Service and Manufacturing, 2015
- RSS 2015 Workshop on Combining AI Reasoning and Cognitive Science with Robotics, 2015
- Workshop on Knowledge-based techniques for problem solving and reasoning (KnowProS), 2016, 2017
- Workshop on Answer Set Programming and Other Computing Paradigms (ASPOCP), 2016
- AAAI Conference on Artificial Intelligence, Student Abstract and Poster Program Track, 2010, 2011, 2012, 2013, 2014, 2015
- IJCAI Video Competition, 2013, 2015

REVIEWER: JOURNALS AND BOOK CHAPTERS

- Artificial Intelligence Journal (AIJ)
- Journal of Artificial Intelligence Research (JAIR)
- International Journal of Robotics Research (IJRR)
- IEEE Transactions on Robotics (TRO)
- Autonomous Robots (AURO)
- IEEE Transactions on Automation Science and Engineering (TASE)
- Autonomous Agents and Multi-Agent Systems (AGNT)
- Annals of Mathematics in Artificial Intelligence (AMAI)
- Journal of Logic and Computation (JLC)
- ACM Transactions on Computational Logic (TOCL)
- Theory and Practice of Logic Programming (TPLP)
- Journal of Experimental and Theoretical Artificial Intelligence (JETAI)
- Transactions on Computational Intelligence and AI in Games (TCIAIG)
- Parallel Computing (PC)
- IEEE/ACM Transactions on Computational Biology and Bioinformatics (TCBB)
- BioMed Central
- Logic Journal of the IGPL

- Data and Knowledge Engineering (DKE)
- Journal of Applied Non-Classical Logics (JANCL)
- Intelligent Techniques for Planning (edited by Ioannis Vlahavas and Dimitris Vrakas)
- Bridges between the Methodological and Practical Work of the Robotics and Cognitive Systems Communities – From Sensors to Concepts (edited by Yacine Amirat, Abdelghani Chibani, and Gian Piero Zarri)
- Logic Programming, Knowledge Representation, and Nonmonotonic Reasoning – Essays Dedicated to Michael Gelfond on the Occasion of His 65th Birthday (edited by Marcello Balduccini and Tran Cao Son)

REVIEWER: CONFERENCES AND WORKSHOPS

- International Joint Conference on Artificial Intelligence (IJCAI), 2003, 2005, 2007, 2009, 2011, 2012, 2013, 2015, 2016
- AAAI Conference on Artificial Intelligence (AAAI), 2002, 2004, 2005, 2006, 2007, 2008, 2010, 2011, 2012, 2013, 2014, 2015
- European Conference on Artificial Intelligence (ECAI), 2004, 2006, 2008, 2010, 2012, 2014, 2016
- International Conference on Principles of Knowledge Representation and Reasoning (KR), 2006, 2008, 2012, 2014, 2016
- European Conference on Logics in Artificial Intelligence (JELIA), 2002, 2006, 2010, 2012
- International Conference on Logic Programming (ICLP), 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016
- Robotics, Science and Systems Conference (RSS), 2016
- IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS), 2013, 2015
- IEEE International Conference on Robotics and Automation (ICRA), 2014, 2015, 2016
- International Conference on Principles and Practice of Constraint Programming (CP), 2007
- International Conference on Computational Logic (CL), 2000
- International Conference on Logic for Programming Artificial Intelligence and Reasoning (LPAR), 2005, 2006, 2010
- International Conference on Logic Programming and Nonmonotonic Reasoning (LPNMR), 2001, 2003, 2009, 2011, 2013, 2015
- International Conference on Agents and Artificial Intelligence (ICAART), 2015
- Extended Semantic Web Conference (ESWC), 2015
- International Conference on Autonomous Agents and Multiagent Systems (AAMAS), 2007, 2013, 2014
- International FLAIRS Conference (FLAIRS), Robotics Track, 2016
- Conference on Prestigious Applications of Intelligent Systems (PAIS), 2014

- Australasian Joint Conference on Artificial Intelligence (AI), 2008, 2009, 2010, 2011, 2012
- International Conference on Applications of Declarative Programming and Knowledge Management (INAP), 2011
- International Conference on Industrial Engineering and Other Applications of Applied Intelligence (IEA/AIE), 2013
- International Conference on Web Reasoning and Rule Systems (RR), 2013
- International Conference on Artificial Intelligence: Methodology, Systems, Applications (AIMSA), 2014
- Türkiye Otonom Robotlar Konferansı (TORK), 2014–2016
- International Symposium on Practical Aspects of Declarative Languages (PADL), 2017
- IFAC Symposium on Robot Control (SYROCO), 2012
- International Symposium on Logic-based Program Synthesis and Transformation (LOPSTR), 2012
- International Symposium on Artificial Intelligence and Mathematics (ISAIM), 2008
- International Symposium on Logical Formalizations of Commonsense Reasoning (CommonSense), 2003, 2005, 2007, 2009, 2011
- International Symposium on Foundations of Information and Knowledge Systems (FoIKS), 2006
- International Symposium on Computer and Information Sciences (ISCIS), 2004, 2008, 2009
- AAI Spring Symposium, 2001, 2010, 2014
- European Starting AI Researcher Symposium (STAIRS), 2010, 2012
- International Colloquium on Theoretical Aspects of Computing (ICTAC), 2008
- International Workshop on the Algorithmic Foundations of Robotics (WAFR), 2016
- International Workshop on Non-Monotonic Reasoning (NMR), 2004, 2008, 2010, 2014
- International Workshop on Constraint Modelling and Reformulation (ModRef), 2008, 2010
- International Knowledge Representation and Automatic Reasoning Workshop (RCRA), 2009, 2010, 2011, 2013, 2016
- Workshop on Constraint Based Methods for Bioinformatics (WCB), 2009, 2010, 2011, 2012
- Workshop on Dynamics of Knowledge and Belief Representation, Annual German Conference on Artificial Intelligence (KI), 2007
- ICAPS Workshop on Combining Task and Motion Planning for Real-World Applications (TAMPRA), 2012
- International Workshop on Spatio-Temporal Dynamics (STeDy), 2012
- RSS Workshop on Combined Robot Motion Planning and AI Planning for Practical Applications, 2013
- ICLP Workshop on Knowledge Representation and Reasoning in Robotics (KRR), 2013
- International Workshop on Cognitive Robotics (CogRob), 2012, 2014, 2016

- AAAI Workshop on Artificial Intelligence and Robotics (AIRob), 2014
- Workshop on Natural Language Processing and Automated Reasoning (NLPAR), 2013, 2015
- Workshop on Controlled Natural Language (CNL), 2014, 2016
- International Workshop on User-Oriented Logic Programming (IULP), 2015
- Workshop on Knowledge-based techniques for problem solving and reasoning (KnowProS), 2016, 2017
- Workshop on Answer Set Programming and Other Computing Paradigms (ASPOCP), 2016
- Robotics, Science and Systems Conference (RSS) Workshops, 2014
- AAAI Conference on Artificial Intelligence, Student Abstract and Poster Program Track, 2010, 2011, 2012, 2013, 2014, 2015
- IJCAI Video Competition, 2013, 2015

REVIEWER: PROJECTS AND PROPOSALS

- European Commission, The EU Framework Programme for Research and Innovation, Horizon 2020, 2015
- Research Foundation Flanders (FWO), 2015
- The Scientific and Technical Research Council of Turkey, Technology and Innovation Funding Programs Directorate (TEYDEB), 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015
- The Scientific and Technical Research Council of Turkey, Academic Research Funding Program Directorate (ARDEB), 2009
- Greek Ministry of Education, Life Long Learning and Religious Affairs, 2012
- Bogazici University, 2016

FACULTY SERVICES AT SABANCI UNIVERSITY

- Faculty Search Committee Member, Bioinformatics (Spring 2016–present)
- Faculty Search Committee Member, Neural Data and Imaging Sciences (Spring 2016–present)
- Student Recruitment/Publicity Committee Member (Spring 2016–present)
- PhD Qualifying Committee Member (Spring 2016–present)
- PhD Committee Member (Fall 2012–present)
- TA Assignment and Evaluation Committee (Spring 2010–present)
- CS Seminar Coordinator (Fall 2007–Spring 2010, Spring 2016–present)
- Gursel Sönmez Research Award Committee Member (Spring 2009, Fall 2012–Fall 2015)
- CS Program Coordinator (Fall 2011–Summer 2012)
- Academic Success Monitoring and Counseling Committee (Spring 2010–Spring 2012)
- Diploma Area Advisor (Fall 2007–Fall 2008)

OTHER

- Moderator, Artificial Intelligence and Robotic Technologies Forum, ICT Summit NOW, 2013
 - Co-Organizer, Computer Science and Engineering Student Workshop (CSW), 2010, 2011, 2012
 - Organizer, Oberseminar Talks, 2010, 2015
 - Organizer, AI Day at Sabancı University, 2008, 2010
 - Panel Coordinator, “Existing Successful Applications of ASP/LPNMR”, International Conference on Logic Programming and Nonmonotonic Reasoning (LPNMR), 2009
 - Panelist, “Applications of Nonmonotonic Reasoning”, Workshop on Nonmonotonic Reasoning (NMR), 2006
 - Coordinator, Cognitive Robotics Reading Group, University of Toronto, 2002–2003
 - Coordinator, Texas Action Group at Austin, 2000–2002
 - Coordinator, Logic-Based AI Reading Group, University of Texas at Austin, 2001–2002
 - Mentor, Doctoral Consortium, International Conf. on Principles of Knowledge Representation and Reasoning (KR), 2004
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INVITED TALKS AND TUTORIALS

45. National Institute of Informatics (NII), 10/2016.
Hybrid Conditional Planning for Robotics
44. IROS 2016 Workshop, Integrating Multiple Knowledge Representation and Reasoning Techniques in Robotics, 10/2016.
Hybrid Conditional Planning for Robotics
43. RSS 2016 Workshop, Task and Motion Planning, 6/2016.
Hybrid Conditional Planning for Robotics
42. The 6th Hybris Workshop, 11/2015.
Hybrid Reasoning for Robotics using Answer Set Programming.
41. Middle East Technical University (METU), 5/2015.
Knowledge Representation and Reasoning for Drug Discovery.
40. Hong Kong University of Science and Technology (HKUST), 5/2014.
Finding Answers and Generating Explanations for Complex Biomedical Queries.
39. University of Calabria, 5/2014.
A Formal Hybrid Planning Framework for Robotic Manipulation.
38. SRI International, Artificial Intelligence Center, 3/2014.
A Formal Hybrid Planning Framework for Robotic Manipulation.
37. The 31st Workshop of the UK Planning and Scheduling Special Interest Group (PlanSIG 2013), 1/2014.
A Formal Hybrid Planning Framework for Robotic Manipulation.

36. University of Texas at Austin, 1/2014.
A Formal Hybrid Planning Framework for Robotic Manipulation.
35. Rice University, 1/2014.
A Formal Hybrid Planning Framework for Robotic Manipulation.
34. National Institute of Informatics (NII), 11/2013.
Finding Answers and Generating Explanations for Complex Biomedical Queries.
33. National Institute of Informatics (NII), 11/2013.
A Systematic Analysis of Levels of Integration between High-Level Task Planning and Low-Level Feasibility Checks.
32. ICGEB Workshop on Bioinformatic Approaches for Analysis of High-Throughput Biological Data, 9/2012.
Genome Rearrangement with AI Planning.
31. ICGEB Workshop on Bioinformatic Approaches for Analysis of High-Throughput Biological Data, 9/2012.
Querying Biomedical Databases and Ontologies in Natural Language Using Automated Reasoners.
30. Twenty-Sixth Conference on Artificial Intelligence (AAAI), 7/2012.
Theory and Practice of Answer Set Programming.
(The tutorial is given with Joohyung Lee and Yuliya Lierler.)
29. SRI International, Artificial Intelligence Center, 9/2011.
Finding Answers and Generating Explanations for Complex Biomedical Queries.
28. Vienna University of Technology, 12/2010.
Querying Biomedical Ontologies using Answer Set Programming.
27. Koc University, 5/2010.
Applications of Automated Reasoning.
26. New Mexico State University, 2/2010.
Querying Biomedical Ontologies in a Controlled Natural Language.
25. University of Arizona, 2/2010.
Querying Biomedical Ontologies in a Controlled Natural Language.
24. University of Arizona, 2/2010.
Bridging the Gap between High-Level Reasoning and Low-Level Control.
23. University of Texas at Austin, 1/2010.
Querying Biomedical Ontologies in a Controlled Natural Language.
22. University of Texas at Austin, 1/2010.
Bridging the Gap between High-Level Reasoning and Low-Level Control.
21. Istanbul Technical University, 11/2009.
Bridging the Gap between High-Level Reasoning and Low-Level Control.
20. Guizhou University, 10/2009.
Efficient Haplotype Inference with Answer Set Programming.
19. Guizhou Academy of Sciences, 10/2009.
Computational Cladistics with Answer Set Programming.

18. University of Groningen, 4/2009.
Genome Rearrangement and Planning.
17. Sabancı University, 9/2008.
Computational Cladistics with Answer Set Programming.
16. Vienna University of Technology, 9/2008.
Efficient Haplotype Inference with Answer Set Programming.
15. National Institutes of Health, National Library of Medicine, 7/2008.
A New Approach to Integrating Biomedical Ontologies and Answering Complex Queries related to Drug Discovery.
14. National Institutes of Health, National Center for Biotechnology Information, 7/2008.
Efficient Haplotype Inference with Answer Set Programming.
13. University of Groningen, 6/2008.
Inferring Phylogenetic Trees using Answer Set Programming.
12. AI Day at Sabancı University, 5/2008.
A New Approach to Integrating Biomedical Ontologies and Answering Complex Queries related to Drug Discovery.
11. Bogazici University, 5/2008.
Inferring Phylogenetic Trees using Answer Set Programming.
10. Middle East Technical University, 4/2008.
Inferring Phylogenetic Trees using Answer Set Programming.
9. Simon Fraser University, 7/2007.
Inferring Phylogenetic Trees using Answer Set Programming.
8. Sabancı University, 6/2006.
Logic-Based Artificial Intelligence and the Genome Rearrangement Problem.
7. University of Texas at Austin, 1/2005.
Character-Based Cladistics and Answer Set Programming.
6. University of Waterloo, 3/2003.
Evolutionary History of Languages and Answer Set Programming.
5. University of Texas at Austin, 1/2003.
Reconstructing the Evolutionary History of Indo-European Languages using Answer Set Programming.
4. University of Toronto, 12/2002.
Reconstructing the Evolutionary History of Indo-European Languages using Answer Set Programming.
3. Schloss Dagstuhl, 9/2002.
Reconstructing the Evolutionary History of Indo-European Languages using Answer Set Programming.
2. IBM, Austin Research Labs, 8/2001.
SAT Solvers.
1. University of Texas at Austin, 2/2000.
Missionaries and Cannibals in the Causal Calculator.

PUBLICATIONS

BOOKS, AND SPECIAL ISSUES

4. Mehul Bhatt, Esra Erdem, Fredrik Heintz, Michael Spranger (editors). *Cognitive Robotics*, J. Exp. Theor. Artif. Intell. Special Issue, Vol. 28, 2016.
3. Esra Erdem, Joohyung Lee, Yuliya Lierler, and David Pearce (editors). *Correct Reasoning – Essays on Logic-Based AI in Honour of Vladimir Lifschitz*, Lecture Notes in Computer Science, Vol. 7265, Springer, 2012. ISBN 978-3-642-30742-3.
2. Esra Erdem, Joohyung Lee, Yuliya Lierler, and David Pearce (editors). *Correct Reasoning – Essays on Logic-Based AI in Honour of Vladimir Lifschitz*, Lecture Notes in Computer Science, Vol. 7265, Springer, 2012. ISBN 978-3-642-30742-3.
1. Esra Erdem, Fangzhen Lin, and Torsten Schaub (editors). *Proceedings of the Tenth International Conference on Logic Programming and Nonmonotonic Reasoning*, Lecture Notes in Computer Science, Lecture Notes in Artificial Intelligence, Vol. 5753, 2009. ISBN 978-3-642-04237-9.

BOOK CHAPTERS

4. Erdi Aker, Ahmetcan Erdogan, Esra Erdem, and Volkan Patoglu. Housekeeping with Autonomous Robots: Representation, Reasoning and Execution. To appear in *Bridges between the Methodological and Practical Work of the Robotics and Cognitive Systems Communities – From Sensors to Concepts*, Intelligent Systems Reference Library, Springer, 2016.
3. Esra Erdem and Volkan Patoglu. Applications of Action Languages in Cognitive Robotics. In *Correct Reasoning – Essays on Logic-Based AI in Honour of Vladimir Lifschitz*, Lecture Notes in Computer Science, Vol. 7265, pages 229–246, Springer, 2012.
2. Neelakantan Kartha, Esra Erdem, Joohyung Lee, Paolo Ferraris, Wanwan Ren, Yuliya Lierler, Fangkai Yang, and Albert Rondan. Vladimir Lifschitz – A Youth at 65. In *Correct Reasoning – Essays on Logic-Based AI in Honour of Vladimir Lifschitz*, Lecture Notes in Computer Science, Vol. 7265, pages 14–23, Springer, 2012.
1. Esra Erdem. Applications of Answer Set Programming in Phylogenetic Systematics. In *Logic Programming, Knowledge Representation, and Nonmonotonic Reasoning: Essays Dedicated to Michael Gelfond on the Occasion of His 65th Birthday*, Lecture Notes in Computer Science, Vol. 6565, pages 415–431, Springer, 2011.

JOURNAL ARTICLES

20. Esra Erdem, Michael Gelfond, Nicola Leone. Applications of Answer Set Programming. *AI Magazine*, 37(3):5368, 2016.
19. Esra Erdem, Volkan Patoglu, and Peter Schueller. A Systematic Analysis of Levels of Integration between High-Level Task Planning and Low-Level Feasibility Checks. *AI Communications (AICOM)*, 29(2):319–349, 2016. DOI: <http://dx.doi.org/10.3233/AIC-150697>
18. Esra Erdem and Umut Oztok. Generating Explanations for Biomedical Queries. In *Theory and Practice of Logic Programming (TPLP)*, 5(1)35–78, 2015. DOI: <http://dx.doi.org/10.1017/S1471068413000598>

17. Zeynep Dogmus, [Esra Erdem](#), and Volkan Patoglu. REHABROBO-ONTO: Design, Development and Maintenance of a Rehabilitation Robotics Ontology on the Cloud. In *Robotics and Computer Integrated Manufacturing (RCIM)*, 33(0):100–109, 2015. DOI: 10.1016/j.rcim.2014.08.010
16. Zeynep Dogmus, [Esra Erdem](#), and Volkan Patoglu. REACT!: An Interactive Educational Tool for AI Planning for Robotics. In *IEEE Transactions on Education (IEEE TOE)*, 58(1):15–24, 2015. DOI: <http://dx.doi.org/10.1109/TE.2014.2318678>
15. [Esra Erdem](#), Volkan Patoglu, Zeynep G. Saribatur, Peter Schueller, and Tansel Uras. Finding Optimal Plans for Multiple Teams of Robots through a Mediator: A Logic-Based Approach. In *Theory and Practice of Logic Programming (TPLP)*, 13(4–5):831–846, 2013. DOI: <http://dx.doi.org/10.1017/S1471068413000525>
14. Thomas Eiter, [Esra Erdem](#), Halit Erdogan, and Michael Fink. Finding Similar/Diverse Solutions in Answer Set Programming. In *Theory and Practice of Logic Programming (TPLP)*, 13(3): 303–359, 2013. DOI:10.1017/S1471068411000548
13. Martin Brain, [Esra Erdem](#), Katsumi Inoue, Johannes Oetsch, Joerg Puehrer, Hans Tompits, and Cemal Yilmaz. Event-Sequence Testing using Answer-Set Programming. In *International Journal On Advances in Software*, 5(3–4):237–251, 2012.
12. [Esra Erdem](#) and Umut Oztok. BioQuery-ASP: Querying Biomedical Databases and Ontologies using Answer Set Programming. In *EMBnet.journal*, 18(Supplement B):62–64, 2012.
11. [Esra Erdem](#), Erdi Aker, Volkan Patoglu. Answer Set Programming for Collaborative Housekeeping Robotics: Representation, Reasoning, and Execution. In *Intelligent Service Robotics*, 5(4):275–291, 2012. DOI:10.1007/s11370-012-0119-x
10. Duygu Cakmak, [Esra Erdem](#), and Halit Erdogan. Computing Weighted Solutions in ASP: Representation-Based Method vs. Search-Based Method. In *Annals of Mathematics and Artificial Intelligence (AMAI)*, 62:219–258, 2011. DOI: 10.1007/s10472-011-9242-1
9. Mark Buller, Paul Cuddihy, Ernest Davis, Patrick Doherty, Finale Doshi-Velez, [Esra Erdem](#), Douglas Fisher, Nancy Green, Knut Hinkelmann, James McLurkin, Mary Lou Maher, Rajiv Maheswaran, Sara Rubinelli, Nathan Schurr, Donia Scott, Dylan Shell, Pedro Szekely, Barbara Thoenssen, Arnold B. Urken. Reports of the AAAI 2011 Spring Symposia. In *AI Magazine*, 32(3):119–127, 2011.
8. Thomas Eiter, [Esra Erdem](#), Michael Fink, and Ján Senko. Updating Action Domain Descriptions. In *Artificial Intelligence Journal (AIJ)*, 174(15):1172–1221, 2010. DOI:10.1016/j.artint.2010.07.004
7. Thomas Eiter, [Esra Erdem](#), and Wolfgang Faber. Undoing the Effects of Action Sequences. In *Journal of Applied Logic (JAL)*, 6(3):380–415, 2008. DOI:10.1016/j.jal.2007.05.002
6. Thomas Eiter, [Esra Erdem](#), Wolfgang Faber, and Ján Senko. A Logic-Based Approach to Finding Explanations for Discrepancies in Optimistic Plan Execution. In *Fundamenta Informaticae (FI)*, 79(1-2):25–69, 2008.
5. Daniel R. Brooks, [Esra Erdem](#), Selim T. Erdogan, James W. Minett, and Don Ringe. Inferring Phylogenetic Trees using Answer Set Programming. In *Journal of Automated Reasoning (JAR)*, 39(4):471–511, 2007. DOI:10.1007/s10817-007-9082-1
4. Thomas Eiter, [Esra Erdem](#), Michael Fink, and Ján Senko. Comparing Action Descriptions Based on Semantic Preferences. In *Annals of Mathematics and Artificial Intelligence (AMAI)*, 50(3-4):273–304, 2007. DOI:10.1007/s10472-007-9077-y

3. Esra Erdem, Vladimir Lifschitz, and Don Ringe. Temporal Phylogenetic Networks and Logic Programming. In *Theory and Practice of Logic Programming (TPLP)*, 6(5):539–558, 2006. DOI:10.1017/S1471068406002729
2. Esra Erdem and Vladimir Lifschitz. Tight Logic Programs. In *Theory and Practice of Logic Programming (TPLP)*, 3(4–5):499–518, 2003. DOI:10.1017/S1471068403001765
1. Esra Erdem and Pierre Flener. Completing Open Logic Programs by Constructive Induction. In *International Journal of Intelligent Systems (IJIS)*, 14(10):995–1020, 1999. DOI:10.1002/(SICI)1098-111X(199910)14:10<995::AID-INT4>3.0.CO;2-W

REFEREED CONFERENCE AND WORKSHOP PAPERS

85. Gokay Coruhlu, Esra Erdem and Volkan Patoglu. A Formal Approach to Discrepancy Generation for Systematic Testing of Execution Monitoring Algorithms in Simulation. In *Proceedings of the 2016 IEEE International Conference on Simulation, Modeling, and Programming for Autonomous Robots (SIMPAN)*, 2016.
84. Ahmed Nouman, Ibrahim Faruk Yalciner, Esra Erdem and Volkan Patoglu. Experimental Evaluation of Hybrid Conditional Planning for Service Robotics. In *Proceedings of the 2016 International Symposium on Experimental Robotics (ISER)*, 2016.
83. Ezgi Demirel, Kamil Doruk Gur, Esra Erdem. Human-Robot Interaction in a Shopping Mall: A CNL Approach. In *Proceedings of the Fifth International Workshop on Controlled Natural Language (CNL)*, 2016.
82. Luca Iocchi, Maria Teresa Lzaro, Laurent Jeanpierre, Abdel-illah Mouaddib, Esra Erdem, Hichem Sahli. COACHES Cooperative Autonomous Robots in Complex and Human Populated Environments. In *Proceedings of the Fourteenth International Conference of the Italian Association for Artificial Intelligence (AI*IA)*, 2015.
81. Esra Erdem, Volkan Patoglu, and Zeynep G. Saribatur. Diagnostic Reasoning for Robotics using Action Languages. In *Proceedings of the Thirteenth International Conference on Logic Programming and Nonmonotonic Reasoning (LPNMR)*, 2015.
80. Esra Erdem, Volkan Patoglu, and Zeynep G. Saribatur. Integrating Hybrid Diagnostic Reasoning in Plan Execution Monitoring for Cognitive Factories with Multiple Robots. In *Proceedings of the 2015 IEEE International Conference on Robotics and Automation (ICRA 2015)*, 2015.
Finalist for Best Conference Paper Award, Finalist for Best Cognitive Robotics Paper Award
79. Zeynep Dogmus, Esra Erdem, and Volkan Patoglu. Answering Natural Language Queries about Rehabilitation Robotics Ontology on the Cloud. In *Proceedings of the Sixth International Joint Conference on Knowledge Engineering and Ontology Design (KEOD 2014)*, 2014.
78. Zeynep Gozen Saribatur, Esra Erdem, and Volkan Patoglu. Cognitive Factories with Multiple Teams of Heterogeneous Robots: Hybrid Reasoning for Optimal Feasible Global Plans. In *Proceedings of 2014 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS 2014)*, 2014.
77. Giray Havur, Guchan Ozbilgin, Esra Erdem, and Volkan Patoglu. Geometric Rearrangement of Multiple Movable Objects on Cluttered Surfaces: A Hybrid Reasoning Approach. In *Proceedings of the 2014 IEEE International Conference on Robotics and Automation (ICRA 2014)*, 2014.
76. Giray Havur, Guchan Ozbilgin, Esra Erdem, and Volkan Patoglu. Hybrid Reasoning for Geometric Rearrangement of Multiple Movable Objects on Cluttered Surfaces. In *Proceedings of the Ninth International Workshop on Cognitive Robotics (CogRob 2014)*, 2014.

75. Esra Erdem, Volkan Patoglu, Peter Schueller. A Systematic Analysis of Levels of Integration between High-Level Task Planning and Low-Level Feasibility Checks. In *Proceedings of the 21th Knowledge Representation and Automated Reasoning International Workshop (RCRA 2014)*, 2014.
74. Zeynep Gozen Saribatur, Esra Erdem, and Volkan Patoglu. Coordination of Multiple Teams of Robots for an Optimal Global Plan. In *Proceedings of the Twenty-Eighth AAAI Conference (AAAI-14)*, 2014.
73. Zeynep Gozen Saribatur, Esra Erdem, and Volkan Patoglu. Hybrid Reasoning for Teams of Heterogeneous Robots: Finding an Optimal Feasible Global Plan. In *Proceedings of AAAI 2014 Spring Symposium on Knowledge Representation and Reasoning in Robotics*, 2014.
72. Zeynep Dogmus, Agis Papanтониou, Muhammed Kilinc, Sibel A. Yildirim, Esra Erdem, and Volkan Patoglu. Rehabilitation Robotics Ontology on the Cloud. In *Proceedings of the Thirteenth International Conference on Rehabilitation Robotics (ICORR 2013)*, 2013.
71. Esra Erdem, Doga G. Kisa, Umut Oztok, Peter Schueller. A General Formal Framework for Pathfinding Problems with Multiple Agents. In *Proceedings of the Twenty-Seventh AAAI Conference on Artificial Intelligence (AAAI'13)*, 2013.
70. Giray Havur, Kadir Haspalamutgil, Can Palaz, Esra Erdem, and Volkan Patoglu. A Case Study on the Tower of Hanoi Challenge: Representation, Reasoning and Execution. In *Proceedings of the 2013 IEEE International Conference on Robotics and Automation (ICRA 2013)*, 2013.
69. Canan Gunicen, Esra Erdem, and Husnu Yenigun. Generating Shortest Synchronizing Sequences using Answer Set Programming. In *Proceedings of ICLP 2013 Workshop, Answer Set Programming and Other Computing Paradigms (ASPOCP 2013)*, 2013.
68. Esra Erdem, Doga G. Kisa, Umut Oztok, Peter Schueller. Experimental Evaluation of Multi-Agent Pathfinding Problems using Answer Set Programming. In *Proceedings of the 20th Knowledge Representation and Automated Reasoning International Workshop (RCRA 2013)*, 2013.
67. Damien J. Duff, Esra Erdem, and Volkan Patoglu. Integration of 3D Object Recognition and Planning for Robotic Manipulation: A Preliminary Report. In *Proceedings of ICLP 2013 Workshop, Knowledge Representation and Reasoning in Robotics (KRRR 2013)*, 2013.
66. Zeynep Dogmus, Esra Erdem, and Volkan Patoglu. REACT! An Interactive Tool for Hybrid Planning in Robotics. In *Proceedings of ICLP 2013 Workshop, Knowledge Representation and Reasoning in Robotics (KRRR 2013)*, 2013.
65. Esra Erdem, Volkan Patoglu, and Peter Schueller. Levels of Integration between Low-Level Reasoning and Task Planning. In *Proceedings of ICLP 2013 Workshop, Knowledge Representation and Reasoning in Robotics (KRRR 2013)*, 2013.
64. Zeynep Dogmus, Esra Erdem, and Volkan Patoglu. REACT! An Interactive Tool for Hybrid Planning in Robotics. In *Proceedings of RSS 2013 Workshop, Combined Robot Motion Planning and AI Planning for Practical Applications*, 2013.
63. Peter Schueller, Volkan Patoglu, and Esra Erdem. Levels of Integration between Low-Level Reasoning and Task Planning. In *Proceedings of AAAI 2013 Workshop, Intelligent Robotic System (IRS 2013)*, 2013.
62. Esra Erdem, Kadir Haspalamutgil, Volkan Patoglu, Tansel Uras. Causality-Based Reasoning for Cognitive Factories. In *Proceedings of AAAI 2013 Workshop, Intelligent Robotic System (IRS 2013)*, 2013.

61. Peter Schueller, Volkan Patoglu, and Esra Erdem. A Systematic Analysis of Levels of Integration between Low-Level Reasoning and Task Planning. In *Proceedings of the 2013 IEEE ICRA Workshop, Combining Task and Motion Planning (TAMP 2013)*, 2013.
60. Peter Schueller, Volkan Patoglu, and Esra Erdem. Levels of Integration between Low-Level Reasoning and Task Planning. In *Proceedings of Austrian Robotics Workshop*, 2013.
59. Zeynep Gozen Saribatur, Peter Schueller, Volkan Patoglu, and Esra Erdem. Bilissel Fabrikalarda Bir-den Fazla Robot Takimi icin Eniyilestirilmis Ayristirilabilir Plan Hesaplanmasi. In *Proceedings of IEEE Sinyal Isleme ve Iletisim Uygulamalari Kurultayi, Bilissel Robotlar ve Uygulamalari Ozel Oturumu (SIU 2013)*, 2013.
58. Giray Havur, Kadir Haspalamugil, Can Palaz, Volkan Patoglu, and Esra Erdem. Hanoi Kulesi'nin Robotlarla Cozumu icin Nedensel Akil Yurutme, Icras ve Icras Takibi Cercevesi. In *Proceedings of IEEE Sinyal Isleme ve Iletisim Uygulamalari Kurultayi, Bilissel Robotlar ve Uygulamalari Ozel Oturumu (SIU 2013)*, 2013.
57. Erdi Aker, Volkan Patoglu, and Esra Erdem. Cozum Kumesi Programlama Kullanarak Ortaklasa Ev Ici Hizmet Robotigi. In *Proceedings of IEEE Sinyal Isleme ve Iletisim Uygulamalari Kurultayi, Bilissel Robotlar ve Uygulamalari Ozel Oturumu (SIU 2013)*, 2013.
56. Giray Havur, Esra Erdem, and Volkan Patoglu. A Case Study on the Tower of Hanoi Challenge: Representation, Reasoning and Execution. In *Proceedings of the Computer Science Student Workshop (CSW 2013)*, 2013.
55. Gizem Gezici, Zeynep Dogmus, Esra Erdem, and Volkan Patoglu. Intelligent Physical Rehabilitation using Serious Games. In *Proceedings of the Computer Science Student Workshop (CSW 2013)*, 2013.
54. Zeynep Dogmus, Gizem Gezici, Volkan Patoglu, and Esra Erdem. Developing and Maintaining an Ontology for Rehabilitation Robotics. In *Proceedings of the Fourth International Joint Conference on Knowledge Engineering and Ontology Design (KEOD 2012)*, 2012.
53. Esra Erdem, Kadir Haspalamutgil, Volkan Patoglu, and Tansel Uras. Causality-Based Planning and Diagnostic Reasoning for Cognitive Factories. In *Proceedings of Seventeenth IEEE Conference on Emerging Technologies and Factory Automation (ETFA 2012)*, 2012.
52. Erdi Aker, Volkan Patoglu, and Esra Erdem. Answer Set Programming for Reasoning with Semantic Knowledge in Collaborative Housekeeping Robotics. In *Proceedings of the Tenth International IFAC Symposium on Robot Control (SYROCO'12)*, 2012.
51. Esra Erdem, Katsumi Inoue, Johannes Oetsch, Joerg Puehrer, Hans Tompits, and Cemal Yilmaz. Answer-Set Programming as a New Approach to Event-Sequence Testing. In *Proceedings of the Third International Conference on Advances in System Testing and Validation Lifecycle (VALID'11)*, 2011.
50. Erdi Aker, Ahmetcan Erdogan, Esra Erdem, and Volkan Patoglu. Housekeeping with Multiple Autonomous Robots: Knowledge Representation and Automated Reasoning for a Tightly Integrated Robot Control Architecture. In *Proceedings of the IROS 2011 Workshop on Knowledge Representation for Autonomous Robots*, 2011.
49. Esra Erdem, Halit Erdogan, and Umut Oztok. BIOQUERY-ASP: Querying Biomedical Ontologies using Answer Set Programming. In *Proceedings of RuleML2011@BRF Challenge*, 2011.
48. Esra Erdem, Yelda Erdem, Halit Erdogan, and Umut Oztok. Finding Answers and Generating Explanations for Complex Biomedical Queries. In *Proceedings of the Twenty-Fifth AAAI Conference on Artificial Intelligence (AAAI'11)*, 2011.

47. Umut Oztok and Esra Erdem. Generating Explanations for Complex Biomedical Queries. In *Proceedings of the Twenty-Fifth AAAI Conference on Artificial Intelligence (AAAI'11)*, 2011.
46. Erdi Aker, Ahmetcan Erdogan, Esra Erdem, and Volkan Patoglu. Causal Reasoning for Planning and Coordination of Multiple Housekeeping Robots. In *Proceedings of the Twelfth International Conference on Logic Programming and Nonmonotonic Reasoning (LPNMR'11)*, 2011.
45. Esra Erdem, Kadir Haspalamutgil, Can Palaz, Volkan Patoglu, Tansel Uras. Combining High-Level Causal Reasoning with Low-Level Geometric Reasoning and Motion Planning for Robotic Manipulation. In *Proceedings of the 2011 IEEE International Conference on Robotics and Automation (ICRA 2011)*, 2011.
44. Erdi Aker, Ahmetcan Erdogan, Esra Erdem, and Volkan Patoglu. Housekeeping with Multiple Autonomous Robots: Representation, Reasoning and Execution. In *Proceedings of the Tenth International Symposium on Logical Formalization on Commonsense Reasoning (Commonsense 2011)*, 2011.
43. Kadir Haspalamutgil, Can Palaz, Tansel Uras, Esra Erdem and Volkan Patoglu. Bilişsel Montaj Planlama ve İcra Takibi. In *Proceedings of Otomatik Kontrol Turk Milli Komitesi Otomatik Kontrol Ulusal Toplantisi*, 2010.
42. Halit Erdogan, Olivier Bodenreider and Esra Erdem. Exploiting UMLS Semantics for Checking Semantic Consistency among UMLS concepts. In *Proceedings of the Thirteenth International Congress on Medical Informatics (MedInfo'10)*, 2010.
41. Kadir Haspalamutgil, Can Palaz, Tansel Uras, Esra Erdem and Volkan Patoglu. A Tight Integration of Task Planning and Motion Planning in an Execution Monitoring Framework. In *Proceedings of AAAI'10 Workshop, Bridging The Gap Between Task And Motion Planning (BTAMP'10)*, 2010
40. Duygu Cakmak, Esra Erdem and Halit Erdogan. Computing Weighted Solutions in ASP: Representation-Based Method vs. Search-Based Method. In *Proceedings of Knowledge Representation and Automated Reasoning International Workshop (RCRA'10)*, 2010.
39. Tansel Uras and Esra Erdem. Genome Rearrangement and Planning: Revisited. In *Proceedings of the Twentieth International Conference on Automated Planning and Scheduling (ICAPS'10)*, 2010.
38. Halit Erdogan, Umut Oztok, Yelda Erdem and Esra Erdem. Querying Biomedical Ontologies in Natural Language using Answer Set Programming. In *Proceedings of the Third International Workshop on Semantic Web Applications and Tools for Life Sciences (SWAT4LS'10)*, 2010.
37. Halit Erdogan, Olivier Bodenreider and Esra Erdem. Finding Semantic Inconsistencies in UMLS using Answer Set Programming. In *Proceedings of the Twenty-Fifth AAAI Conference on Artificial Intelligence (AAAI'10)*, 2010.
36. Tansel Uras and Esra Erdem. Genome Rearrangement: A Planning Approach. In *Proceedings of the Twenty-Fifth AAAI Conference on Artificial Intelligence (AAAI'10)*, 2010.
35. Mehmet Celik, Halit Erdogan, Firat Hamit Tahaoglu, Tansel Uras, and Esra Erdem. Comparing ASP and CP on Four Grid Puzzles. In *Proceedings of Knowledge Representation and Automated Reasoning International Workshop (RCRA'09)*, 2009.
34. Ozan Caldiran, Kadir Haspalamutgil, Abdullah Ok, Can Palaz, Esra Erdem, and Volkan Patoglu. Robot Kontrolu icin Mantiksal Akil Yurutme. In *Proceedings of Otomatik Kontrol Turk Milli Komitesi Otomatik Kontrol Ulusal Toplantisi*, 2009.

33. Ozan Caldiran, Kadir Haspalamutgil, Abdullah Ok, Can Palaz, Esra Erdem, and Volkan Patoglu. From Discrete Task Plans to Continuous Trajectories. In *Proceedings of ICAPS'09 Workshop, Bridging The Gap Between Task And Motion Planning (BTAMP'09)*, 2009.
32. Esra Erdem. PHYLO-ASP: Phylogenetic Systematics with Answer Set Programming. In *Proceedings of the Tenth International Conference on Logic Programming and Nonmonotonic Reasoning (LP-NMR'09)*, pages 567–572, 2009.
31. Esra Erdem, Ozan Erdem, and Ferhan Ture. HAPLO-ASP: Haplotype Inference using Answer Set Programming. In *Proceedings of the Tenth International Conference on Logic Programming and Nonmonotonic Reasoning (LPNMR'09)*, pages 573–578, 2009.
30. Duygu Cakmak, Esra Erdem, and Halit Erdogan. Computing Weighted Solutions in Answer Set Programming. In *Proceedings of the Tenth International Conference on Logic Programming and Nonmonotonic Reasoning (LPNMR'09)*, pages 416–422, 2009.
29. Ozan Caldiran, Kadir Haspalamutgil, Abdullah Ok, Can Palaz, Esra Erdem, and Volkan Patoglu. Bridging the Gap between High-Level Reasoning and Low-Level Control. In *Proceedings of the Tenth International Conference on Logic Programming and Nonmonotonic Reasoning (LPNMR'09)*, pages 342–354, 2009.
28. Thomas Eiter, Esra Erdem, Halit Erdogan, and Michael Fink. Finding Similar or Diverse Solutions in Answer Set Programming. In *Proceedings of the Twenty-Fifth International Conference on Logic Programming (ICLP'09)*, pages 342–356, 2009.
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