

# ESRA ERDEM

## CURRICULUM VITAE

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### CONTACT INFORMATION

Sabancı University +90 (216) 4839574 (office)  
Faculty of Engineering and Natural Sciences esraerdem@sabanciuniv.edu  
Orhanlı, Tuzla, Istanbul 34956 <http://people.sabanciuniv.edu/esraerdem/>

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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.

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### 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.

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### AWARDS AND HONORS

Distinguished Visiting Professor Fellowship, Scottish Informatics and Computing Science Alliance (SICSA), 2019.  
Technology Award, Turkish Industry and Business Association (TUSIAD), Technology Development Foundation of Turkey (TTGV), and The Scientific and Technical Research Council of Turkey (Tubitak), 2018.  
Women Leader of Innovative and Disruptive Technologies, Microsoft and the Women Entrepreneurs Association of Turkey (KAGIDER), 2018.  
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.

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## EMPLOYMENT HISTORY

- 11/2012–present Sabancı University.  
Associate professor, Faculty of Engineering and Natural Sciences.
- 1/2015–present Interact Technologies Inc.  
Co-founder, Chief Scientific Officer in AI.
- 10/2019–11/2019 University of Edinburgh.  
Visiting faculty, School of Informatics.
- 10/2019–11/2019 National Institute of Health.  
Visiting scientist, Cognitive Science Branch.
- 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.

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## RESEARCH FUNDING

### PRINCIPAL INVESTIGATOR

*Cognitive Cellular Warehouses: An Innovative Logistics Paradigm supported by Artificial Intelligence and Robotics*, 2019–2021. (Industry Partner: Ekol Logistics) The Scientific and Technical Research Council of Turkey, The Primary Subjects Research and Development Funding Program (1003).

*AI-Based Personalized and Adaptive Education Platform for Children with Cerebral Palsy*, 1/2019–12/2019. (UK Partner: Matteo Leonetti) Newton Fund Research Environment Links Grant.

*A General Framework for Matching Problems using Artificial Intelligence*, 9/2018–8/2019. (Co-PI: Ahmet Alkan) Sabancı University, Internal Research Grant.

*Knowledge-Based Reasoning for Autonomous Robots to Guide Humans in Complex Environments*, 10/2014–10/2017. (as part of the *COACHES* project) European Union under the ERA-Net funding scheme of the FP7 (CHIST-ERA).

*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).

## OTHER

Management Committee (MC) member. *Distributed Knowledge Graphs*, 4/2020. H2020 COST Action CA19134.

Management Committee (MC) member, and Working Group leader. *Digital Forensics: Evidence Analysis via Intelligent Systems and Practices (DigForASP)*, 10/2018–10/2021. H2020 COST Action CA17124.

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).

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## COURSES TAUGHT

### FACULTY MEMBER (Sabancı University)

CS301, Algorithms	(Fall 2011, Fall 2018, Spring 2019, Spring 2020)
CS400/500, Logic in Computer Science	(Spring 2007, Spring 2008, Spring 2010, Spring 2011, Fall 2014–2016, Spring 2018)
CS404, Artificial Intelligence	(Fall 2008, Fall 2009, Fall 2012, Spring 2015, Spring 2017, Fall 2018)
CS502, Automated Reasoning	(Spring 2007, Spring 2013)
CS504, Knowledge Representation and Reasoning	(Fall 2007, Fall 2008, Fall 2010, Fall 2015, Fall 2017, Spring 2020)
CS506, Cognitive Robotics	(Spring 2010, Spring 2012, Spring 2013, Spring 2017)
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, 2016)
PURE	(Fall/Spring 2017–2018)
PROJ 102	(Fall/Spring 2007–2020)
ENS 491/2	(Fall/Spring 2007–2020)

### 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)

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## 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–Fall 2018, Sabancı University) (co-supervisor)  
*Hybrid Conditional Planning for Service Robotics*

### MASTERS COMMITTEE SUPERVISOR

20. Selin Eyupoglu (Spring 2020–present, Sabancı University)
19. Cagri Uluc Yildirimoglu (Fall 2019–present, Sabancı University)
18. Aysu Bogatarkan (Fall 2019–present, Sabancı University)
17. Muge Fidan (Fall 2019–present, Sabancı University)
16. Abdul Rahman Dabbour (Spring 2017–Fall 2019, Sabancı University) (co-supervisor)  
*Placement Generation and Hybrid Planning for Robotic Rearrangement on Cluttered Surfaces*
15. Momina Rizwan (Spring 2016–Fall 2019, Sabancı University) (co-supervisor)  
*A Formal Approach to Human Robot Collaborative Assembly Planning under Uncertainty*
14. Faseeh Ahmad (Spring 2016–Fall 2019, Sabancı University) (co-supervisor)  
*A Hybrid Planning Approach to Robot Construction Problems*
13. Omid Khorsand Kazemy (Fall 2015–Fall 2017, Sabancı University)  
*Hybrid Generalized Multi-Agent Pathfinding: A Hierarchical Method using ASP*
12. Ibrahim Faruk Yalciner (Spring 2015–Fall 2017, Sabancı University) (co-supervisor: Volkan Patoglu)  
*HCP-ASP: A Parallel Algorithm for Hybrid Conditional Planning using Answer Set Programming*
11. Ezgi Demirel (Fall 2014–Fall 2016, Sabancı University)  
*Hierarchical Knowledge-Rich Semantic Maps for Personalized Path Finding*
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)

6. Denise Angilica (Spring 2020, University of Calabria), Supervisors: Giovambattista Ianni and Gianluigi Greco  
*Tight integration of Artificial Intelligence in Game Development Tools*
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

10. Sertac Karahoda (Fall 2017, Sabancı University), Supervisor: Husnu Yenigun  
*Algorithmic Optimization and Parallelization of Eppstein's Synchronizing Heuristic*
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. Reyyan 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

36. Yavuz Gulesen, Hayda Begum Izci, Baturay Yilmaz (Spring 2020–present)  
*Solving Matching Problems using AI*
35. Berna Gun, Miray Turan (Spring 2020–present)  
*Multi-Agent Path Finding using AI Methods*
34. Farukhzhon Barotov (Fall 2019–present), Co-Supervisor: Christoph Koch  
*Probabilistic Programming based on Datalog*
33. Emre Hilmi Songur, Mohamed Zeina (Fall 2019–present), Co-Supervisor: Volkan Patoglu  
*AI for Robot-Assisted Medical Treatments*
32. Burak Meric, Berk Tunc, Cansu Ulker (Fall 2018–Spring 2019), Co-Supervisor: Volkan Patoglu  
*Serious Games for Children with Cerebral Palsy*
31. Omer Serhat Dai (Fall 2018–Spring 2019), Co-Supervisor: Ahmet Alkan  
*Solving Matching Problems using AI*
30. Cagri Uluc Yildirim (Fall 2018–Spring 2019), Co-Supervisor: Volkan Patoglu  
*Multi-Agent Path Finding using AI Methods*

29. Aysu Bogatarkan (Fall 2017–Spring 2018), Co-Supervisor: Volkan Patoglu  
*High-Level Coordination and Low-Level Control of Multiple Mobile Robots*
28. Basem Atiq (Fall 2017–Spring 2018), Co-Supervisor: Volkan Patoglu  
*High-Level Coordination and Low-Level Control of Multiple Mobile Robots*
27. Kubilay Karapinar (Fall 2016–Spring 2017)  
*Multi-Agent Path Finding using AI Methods*
26. Baris Yazici, Berke Atac (Fall 2016–Spring 2017), Co-Supervisor: Volkan Patoglu  
*Intelligent Robots: Manipulation Planning*
25. Aysenur Kulunk (Fall 2016–Spring 2017)  
*Optimal Multi-Agent Path Finding using Integer Linear Programming*
24. Izzet Pasensya (Fall 2016–Spring 2017)  
*Optimal Multi-Agent Path Finding using Integer Linear Programming*
23. Sude Gonul, Deniz Bayram (Spring 2016–Fall 2016)  
*An Interactive Automated Theorem Prover*
22. Veli Can Erdem (Spring 2016–Fall 2016)  
*Optimal Multi-Agent Path Finding using Integer Linear Programming*
21. Bahadir Pehlivan (Spring 2016–Fall 2016)  
*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. Betul 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

24. Mehmet Fatih Bas, Idil Kapikiran, Nazli Gulsah Onen, Berna Yildiran (Spring 2020)  
Co-Supervisors: Aysu Bogatarkan, Muge Fidan  
*AI4PUZZLES*
23. Kaan Dinc, Atalay Alatas, Taylan Karadeniz (Spring 2018)  
*A Journey into the Past of AI*
22. Mert Can Ozdemir, Bugra Alpagut, Berk Uzalp, Nikan Lahut (Spring 2017)  
*Logical Puzzles*
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*

## UNDERGRADUATE RESEARCH PROJECT SUPERVISOR

6. Begum Arslanhan, Mehmet Ali Aydogan, Buse Carik, Abdullah Yavuz, Hatice Deniz Zorlu (Fall 2018),  
Co-Supervisor: Ahmet Alkan, Yusuf Izmirlioglu  
*Solving Matching Problems using Artificial Intelligence*
5. Gurhan Elcicek, Mert Ertorer, Muhammed Kerem Kahraman (Fall 2018)  
*Course Schedule Planning*
4. Farukhzhon Barotov, Aysu Bogatarkan, Emre Hilmi Songur, Deren Ege Turan, Muhammet Sami Yavuz, Batuhan Yildirim, Cem Yuksel (Fall 2018), Co-Supervisor: Volkan Patoglu  
*Dynamic Multi-Agent Pathfinding*
3. Berkan Teber, Selin Eyuboglu (Spring 2018), Co-Supervisor: Ahmet Alkan  
*Solving Matching Problems using Artificial Intelligence*
2. Farukhzhon Barotov, Emre Hilmi Songur (Fall 2017), Co-Supervisor: Volkan Patoglu  
*Development of an Educational Multi-robot System*
1. Berkan Teber, Selin Eyuboglu, Ozgun Ozerk, Talha Samil Cakir, Zeynep Melis Meric (Fall 2017), Co-Supervisor: Ahmet Alkan  
*Solving Matching Problems using Artificial Intelligence*

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## PROFESSIONAL ACTIVITIES

### EDITORIAL BOARD MEMBER

- Theory and Practice of Logic Programming (TPLP) (2020–present; Editorial Advisor)
- Journal of Artificial Intelligence Research (JAIR) (2014–2016)

### EXECUTIVE COMMITTEE MEMBER

- The Association for Logic Programming (ALP) (2018–present)

### STEERING COMMITTEE MEMBER

- Principles of Knowledge Representation and Reasoning, Incorporated (KR, Inc.) (2010–2014, 2018–present)

### EVENT COORDINATION

- General Chair, International Conference on the Principles of Knowledge Representation and Reasoning (KR), 2021
- Co-Chair, International Joint Conference on Artificial Intelligence (IJCAI), Journal Track, 2021
- Program Co-Chair, International Conference on the Principles of Knowledge Representation and Reasoning (KR), 2020
- Program Co-Chair, International Conference on Logic Programming (ICLP), 2019
- 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

#### CONFERENCE ASSOCIATE EDITOR

- IEEE International Conference on Robotics and Automation (ICRA), 2017, 2018, 2019

#### SENIOR PROGRAM COMMITTEE MEMBER

- International Joint Conference on Artificial Intelligence (IJCAI), 2009, 2011, 2012, 2013, 2015, 2016, 2017, 2018
- AAAI Conference on Artificial Intelligence (AAAI), 2012, 2018
- European Conference on Artificial Intelligence (ECAI), 2014, 2016, 2018, 2020

#### PROGRAM COMMITTEE MEMBER

- International Joint Conference on Artificial Intelligence (IJCAI), 2009, 2011, 2012, 2013, 2015, 2016, 2017, 2018
- AAAI Conference on Artificial Intelligence (AAAI), 2004, 2005, 2006, 2007, 2008, 2010, 2011, 2012, 2013, 2014, 2015, 2018, 2019
- European Conference on Artificial Intelligence (ECAI), 2006, 2008, 2010, 2012, 2014, 2016, 2018
- IEEE International Conference on Robotics and Automation (ICRA), 2017, 2018, 2019
- International Conference on Principles of Knowledge Representation and Reasoning (KR), 2012, 2014, 2016, 2018, 2019
- International Conference on Logic Programming (ICLP), 2007, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019
- International Conference on Logic Programming and Nonmonotonic Reasoning (LPNMR), 2003, 2009, 2011, 2013, 2015, 2019
- International Conference on Autonomous Agents and Multiagent Systems (AAMAS), 2013, 2014
- International Conference on Autonomous Agents and Multiagent Systems (AAMAS), Robotics Track, 2019

- International Conference on Automated Planning and Scheduling (ICAPS), Robotics Track, 2019
- International FLAIRS Conference (FLAIRS), Robotics Track, 2016, 2018, 2019
- 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
- International Joint Conference on Rules and Reasoning (RuleML+RR), 2018
- 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), 2014–2019
- International Symposium on Practical Aspects of Declarative Languages (PADL), 2017, 2018, 2019
- 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, 2017
- AAAI 2018 Spring Symposium on Integrating Representation, Reasoning, Learning, and Execution for Goal Directed Autonomy (SIRLE), 2018
- 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, 2018, 2020
- 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, 2018
- 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, 2018
- Workshop on Controlled Natural Language (CNL), 2014, 2016, 2018
- 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
- KR 2018 Hybrid Reasoning and Learning Workshop, 2018
- 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
- IJCAI Workshop, Hybrid Reasoning, 2018
- Workshop on Answer Set Programming and Other Computing Paradigms (ASPOCP), 2016, 2017, 2018
- Workshop on Applications of Semantic Web technologies in Robotics (AnSWeR), 2017, 2018
- 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 Robotics and Automation Letters (RA-L)
- IEEE Robotics and Automation Magazine (RAM)

- 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, 2017, 2018
- AAI Conference on Artificial Intelligence (AAAI), 2002, 2004, 2005, 2006, 2007, 2008, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2018, 2019
- European Conference on Artificial Intelligence (ECAI), 2004, 2006, 2008, 2010, 2012, 2014, 2016, 2018
- International Conference on Principles of Knowledge Representation and Reasoning (KR), 2006, 2008, 2012, 2014, 2016, 2018, 2019
- 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, 2017, 2018, 2019
- Robotics, Science and Systems Conference (RSS), 2016

- IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS), 2013, 2015, 2017
- IEEE International Conference on Robotics and Automation (ICRA), 2014–2020
- 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, 2019
- 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, 2019
- IEEE International Conference on Simulation, Modelling, and Programming for Autonomous Robots (SIMPAN), 2018
- International Conference on Automated Planning and Scheduling (ICAPS), Robotics Track, 2019
- International FLAIRS Conference (FLAIRS), Robotics Track, 2016, 2018, 2019
- 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 Joint Conference on Rules and Reasoning (RuleML+RR), 2018
- International Conference on Artificial Intelligence: Methodology, Systems, Applications (AIMSA), 2014
- Türkiye Otonom Robotlar Konferansı (TORK), 2014–2019
- International Symposium on Practical Aspects of Declarative Languages (PADL), 2017, 2018, 2019
- 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
- AAAI Spring Symposium, 2001, 2010, 2014, 2018
- 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, 2018
- 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, 2017
- Workshop on Knowledge-based techniques for problem solving and reasoning (KnowProS), 2016, 2017
- Workshop on Answer Set Programming and Other Computing Paradigms (ASPOCP), 2016, 2018
- The International Workshop on Answer Set Programming and Its Applications (ASPIA), 2017
- Workshop on Logical Foundations for Uncertainty and Machine Learning (LFU), 2017
- Workshop on Learning and Reasoning: Principles and Applications to Everyday Spatial and Temporal Knowledge (LR), 2018
- 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
- IJCAI Sister Conference Best Paper Track, 2017
- Doctoral Consortium on Logic Programming and Nonmonotonic Reasoning (LPNMR-DC), 2017

## REVIEWER: PROJECTS AND PROPOSALS

- Natural Sciences and Engineering Research Council of Canada (NSERC), 2020
- Progetti di Ricerca di Interesse Nazionale, Italian Ministry of Education (PRIN MIUR), 2019
- 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, 2016, 2018, 2019, 2020
- The Scientific and Technical Research Council of Turkey, Academic Research Funding Program Directorate (ARDEB), 2009, 2017
- Greek Ministry of Education, Life Long Learning and Religious Affairs, 2012
- Bogazici University, 2016

## FACULTY SERVICES AT SABANCI UNIVERSITY

- Institute Board Member (Fall 2017–Fall 2019)
- Graduate Coordinator (Fall 2017–Summer 2019)
- Discipline Court, Member (Fall 2018–Spring 2019)
- Faculty Search Committee Member, Bioinformatics (Spring 2016)
- Faculty Search Committee Member, Neural Data and Imaging Sciences (Spring 2016)
- Student Recruitment/Publicity Committee Member (Spring 2016)
- PhD Qualifying Committee Member (Spring 2016–Spring 2017)
- PhD Committee Member (Fall 2012–Spring 2017)
- TA Assignment and Evaluation Committee (Spring 2010–Spring 2017)
- CS Seminar Coordinator (Fall 2007–Spring 2010, Spring 2016)
- 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

- Panelist, AI capabilities in the digital forensic technologies, Forensics Europe Expo, 2019
- Panelist, Disruptive Technologies and Our Future, BTS & Partners GC Academy, 2018
- 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

55. Bosch Research, Robotics Systems, 12/2019.  
*Declarative Method for Dynamic Multi-Agent Path Finding*
54. SICSA Distinguished Visiting Fellow talk: University of Glasgow, 10/2019.  
*A General Framework for Stable Roommate Problems*
53. SICSA Distinguished Visiting Fellow talk: University of St. Andrews, 10/2019.  
*A Declarative Method for Dynamic Multi-Agent Path Finding*
52. SICSA Distinguished Visiting Fellow talk: University of Glasgow, 10/2019.  
*Generalized Multi-Agent Pathfinding with Feasibility Checks.*
51. SICSA Distinguished Visiting Fellow talk: Heriot-Watt University, 10/2019.  
*Human Robot Collaborative Assembly Planning under Uncertainty*
50. SICSA Distinguished Visiting Fellow talk: University of Edinburgh, 10/2019.  
*Hybrid Reasoning for Robotics using Answer Set Programming*
49. Rice University, 9/2019.  
*Human Robot Collaborative Assembly Planning under Uncertainty*
48. Keynote Talk: International Conference on Logic Programming and Non-monotonic Reasoning (LP-NMR), 6/2019.  
*Integrating AI and Robotics using Answer Set Programming*
47. RSS 2018 Workshop, Exhibition and Benchmarking of Task-Motion Planners, 6/2018.  
*Generalized Multi-Agent Pathfinding with Feasibility Checks*
46. National Medicine Student Conference, 4/2017.  
*Artificial Intelligence in Medicine*
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

6. Esra Erdem, Andrea Formisano, Germán Vidal, Fangkai Yang (editors). *The 35th International Conference on Logic Programming Special Issue*, Theory and Practice of Logic Programming, 2019.  
DOI: 10.1017/S1471068419000413
5. Bart Bogaerts, Esra Erdem, Paul Fodor, Andrea Formisano, Giovambattista Ianni, Daniela Inclezan, Germán Vidal, Alicia Villanueva, Marina De Vos, Fangkai Yang (editors). *Proceedings of the 35th International Conference on Logic Programming (Technical Communications)*, 2019.  
DOI: 10.4204/EPTCS.306
4. Bart Bogaerts, Esra Erdem, Amelia Harrison (editors). *Answer Set Programming & Other Computing Paradigms*, Annals of Mathematics and Artificial Intelligence (AMAI) Special Issue, 2019.  
DOI:10.1007/s10472-019-09634-w
3. Mehul Bhatt, Esra Erdem, Fredrik Heintz, Michael Spranger (editors). *Cognitive Robotics*, Journal of Experimental & Theoretical Artificial Intelligence (JETAI) Special Issue, Vol. 28, 2016.  
DOI:10.1080/0952813X.2016.1218649
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. DOI:10.1007/978-3-642-30743-0
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.  
DOI:10.1007/978-3-642-04238-6

### 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. DOI:10.1007/978-3-642-30743-0\_16
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. DOI:10.1007/978-3-642-30743-0\_2

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. DOI:10.1007/978-3-642-20832-4\_26

## JOURNAL ARTICLES

25. Zeynep G. Saribatur, Volkan Patoglu, and Esra Erdem. Finding Optimal Feasible Global Plans for Multiple Teams of Heterogeneous Robots using Hybrid Reasoning: An Application to Cognitive Factories. In *Autonomous Robots (AURO)*, 43(1):213–238, 2019. DOI:10.1007/s10514-018-9721-x
24. Zeynep Dogmus, Esra Erdem and Volkan Patoglu. RehabRobo-Query: Answering Natural Language Queries about Rehabilitation Robotics Ontology on the Cloud. In *Semantic Web Journal (SWJ)*, 10(3): 605–629, 2019. DOI:10.3233/SW-180332
23. Eray Gencay, Peter Schueller, and Esra Erdem. Applications of Non-monotonic Reasoning to Automotive Product Configuration using Answer Set Programming. In *Journal of Intelligent Manufacturing (JIM)*, 30(3): 1407–1422, 2019. DOI:10.1007/s10845-017-1333-3
22. Esra Erdem and Volkan Patoglu. Applications of ASP in Robotics In *Künstliche Intelligenz (KI)*, 2018. DOI:10.1007/s13218-018-0544-x
21. Ibrahim Faruk Yalciner, Ahmed Nouman, Volkan Patoglu, and Esra Erdem. Hybrid Conditional Planning using Answer Set Programming. In *Theory and Practice of Logic Programming (TPLP)*, 17(5–6):1027–1047, 2017. DOI:10.1017/S1471068417000321
20. Esra Erdem, Michael Gelfond, Nicola Leone. Applications of Answer Set Programming. In *AI Magazine*, 37(3):53–68, 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. In *AI Communications (AICOM)*, 29(2):319–349, 2016. DOI: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: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: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: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. DOI:10.14806/ej.18.B.551
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

97. Aysu Bogatarkan, Esra Erdem, Alexander Kleiner, Volkan Patoglu. Multi-Modal Multi-Agent Path Finding with Optimal Resource Utilization. In *Proceedings of Fifth International Conference on the Industry 4.0 Model for Advanced Manufacturing (AMP)*, 2020.
96. Muhammed Kerem Kahraman and Esra Erdem. Personalized Course Schedule Planning Using Answer Set Programming. In *Proceedings of the Twenty-First International Symposium on Practical Aspects of Declarative Languages (PADL)*, 2019.

95. Yusuf Izmirlioglu and Esra Erdem. Qualitative Reasoning about Cardinal Directions using Answer Set Programming. In *Proceedings of the Thirty-Second AAAI Conference (AAAI-18)*, 2018.
94. Momina Rizwan, Esra Erdem, and Volkan Patoglu. Addressing Challenges of Theory of Mind using Hybrid Conditional Planning. In *Proceedings of RSS 2018 Workshop, Towards a Framework for Joint Action (FJA): What about Theory of Mind?*, 2018.
93. Momina Rizwan, Esra Erdem, and Volkan Patoglu. A Formal Model for Human Robot Collaboration using Hybrid Conditional Planning. In *Proceedings of RSS 2018 Workshop, Models and Representations for Natural Human-Robot Communication (MRHRC)*, 2018.
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