

Michael Rovatsos

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Research Interests

Artificial Intelligence, Multiagent Systems, Ethical AI, Algorithmic Fairness

Experience

- Professor of Artificial Intelligence** *since Aug 2019*
School of Informatics, The University of Edinburgh, United Kingdom
previously held positions as Reader (Aug 2017), Senior Lecturer (Aug 2013), Lecturer (Sep 2004)
- Director, Bayes Centre** *since Jan 2018*
Academic lead for Data Science and AI Innovation Centre, The University of Edinburgh
- Research Assistant** *Sep 2000–Aug 2004*
Department of Informatics, Technical University of Munich, Germany
- AI Software Engineer** *Nov 1999–Aug 2000*
Knowbotic Systems, Frankfurt am Main, Germany
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Education

- PhD in Computer Science, *summa cum laude*** *Sep 2000–Dec 2004*
Department of Informatics, Technical University of Munich, Munich, Germany
- Diploma in Computer Science, *first class*** *Sep 1994–Sep 1999*
Department of Informatics, University of Saarbrücken, Germany
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Research

Grants

- Co-Principal Investigator, Ethical Human-AI Reasoning in Law** *Sep 2020–Aug 2023*
Cisco University Research Fund Award, \$139,687
- Co-Investigator (Co-Director), Creative Informatics Cluster** *Oct 2018–Mar 2023*
AHRC/SFC Creative Industries Cluster Award, £5,999,090
- Co-Investigator, Edinburgh Vishub Project** *Oct 2018–Mar 2020*
EPSRC Capital Award, £200,000
- Co-Principal Investigator, ReEnTrust Project** *Dec 2018–Nov 2020*
EPSRC Research Grant, £1,211,004 (Edinburgh share £440,878)
- Co-Principal Investigator, CyCAT Project** *Oct 2018–Sep 2021*
H2020 Research Grant, €999,965 (Edinburgh share €219,296)
- Co-Investigator, Research for Emergency Aftershock Response** *Nov 2016–Jul 2017*
NERC Global Challenges Research Fund Project, £198,904
- Co-Principal Investigator, UnBias Project** *Sep 2016–Aug 2018*
EPSRC Research Grant, £1,139,110 (Edinburgh share £218,327)

- Principal Investigator/Co-Ordinator, ESSENCE Project** *Nov 2013–Oct 2017*
FP7 Marie Curie Initial Training Network, €3,990,183 (Edinburgh share €1,235,026)
- Co-Principal Investigator, SmartSociety Project** *Jan 2013–Dec 2016*
FP7 FET Integrated Project, €6,829,664 (Edinburgh share €841,142)
- Co-Principal Investigator, BioNet Agents Project** *Sep 2006–Aug 2007*
FP6 Marie Curie Transfer of Knowledge, €165,000 (Edinburgh share €58,348)
- Further Knowledge Transfer and Consultancy Grants** *Jul 2009–Dec 2016*
Funded by RSE, SFC, EPSRC, Sustainable Opportunities Scotland, Selex, the UK Cabinet Office, the University of Edinburgh, Queen Margaret University, and FWP Park Brown, £87,200

Leadership

- Data Science and AI Chair, University Alliance Europe (1Europe/UNA Europa)** *since Jul 2019*
Thematic lead for Europe-wide alliance of seven leading European universities
- Turing University Lead and Turing Fellow, The Alan Turing Institute** *since Sep 2018*
Representing Edinburgh at the national institute for Data Science and AI
- Director, Centre for Intelligent Systems and their Applications** *Aug 2014 – Jul 2017*
Leading one of the seven research institutes of the School of Informatics
- Conference Coordination Officer, ACM Special Interest Group for AI** *Aug 2016 – Jul 2019*
Managing conference sponsorship and support for major international AI association
- Leader, Agents Research Group, School of Informatics** *since Aug 2004*
Leading research group with 10 current and 27 former members
- Major Organisation Roles at International Conferences** *since 2005*
Organiser, Dagstuhl Seminar on Algorithmic Transparency, Dagstuhl, July 2020
Programme Co-Chair, AAMAS 2018 Blue Sky Ideas Track, Stockholm, July 2018
Steering Committee Member inaugural AAAI/ACM Conference on AI, Ethics, and Society, Feb 2018
Programme Co-Chair, EUMAS 2015, Athens, Dec 2015
Publications Chair, AAMAS 2011, Taipei, May 2011
Local Arrangements Committee Member, IJCAI 2005, Edinburgh, Aug 2005
- Workshop and Other Event Organisation** *since 2003*
Demonstrations Chair, Turing Presents: AI UK, London, Mar 2020
Co-Chair, Workshop on Hybrid Human-Machine Computing, Guildford, Sep 2017
Co-Chair, Taboo Challenge Workshop at IJCAI 2017, Melbourne, Aug 2017
Co-Chair, DIVERSITY 2016 Workshop at ECAI 2016, The Hague, Aug 2016
Co-Chair, ESSENCE Summer Schools, Ischia, Oct 2014 and Edinburgh, Aug 2015
Co-Chair, ESSENCE Workshops, Edinburgh 2014, Ischia 2014, Barcelona 2015
Scientific Committee Member, EASSS 2014 Summer School, Chania, Jul 2014
Organizing Committee Member, COREDEM 2013 at PAAMS 2013, Salamanca, May 2013
Program Co-Chair/Local Arrangements Chair, CIA 2006 Workshop, Edinburgh, Sep 2006
Co-chair, CCRMAS 2004 Workshop at KI 2004, Ulm, Sep 2004
Scientific Committee Member, AgentLink III Technical Forum, Rome, Jun 2004
Co-chair, AUTONOMY 2003 Workshop at AAMAS 2003, Melbourne, Jul 2003

Community Service

- Conference and Workshop Programme Committee Membership** *since 2003*
102 events including many editions of top-tier conferences IJCAI, AAAI, AAMAS, and CHI
- Editorial Responsibilities** *since 2016*
Associate Editor, Journal of Autonomous Agents and Multi-Agent Systems (2020–)
Associate Editor, Knowledge and Information Systems Journal (2016–2019)
- Journal Reviewing** *since 2000*
33 international journals including Nature MI, AIJ, JAIR, JAAMAS, JMLR, ACM and IEEE journals

Grant Application Reviewing*since 2006*

Engineering and Physical Sciences Research Council, Royal Academy of Engineering (UK), Netherlands Organization for Scientific Research (NL), Natural Sciences and Engineering Research Council (Canada), European Science Foundation (ESF), European Research Area Network (ERA-NET/CHIST-ERA), Israel Science Foundation

Research Visits

- Department of Computer Science, University of Southern California** *Nov 2017–Dec 2017*
 Visitor at the Intelligent Decision Making Lab (Prof Sven Koenig)
- Media Lab, Massachusetts Institute of Technology** *Oct 2017–Nov 2017*
 Visitor at the Scalable Cooperation Lab (Prof Iyaf Rahwan)
- School of Engineering and Applied Sciences, Harvard University** *Jul 2010–Aug 2010*
 Visitor at the EconCS & AI Research Groups (Prof David Parkes, Dr Kobi Gal)
- Department of Computer Science, RWTH Aachen University** *Jan 2010*
 Visitor at the Knowledge-Based Systems Group (Prof Gerhard Lakemeyer)
- Department of IT & Communications, Universitat Pompeu Fabra, Barcelona** *Nov 2009*
 Visitor at the Artificial Intelligence Group (Prof Hector Geffner)
- Department of Cybernetics, Czech Technical University Prague** *Jun 2006 and Oct 2014*
 Visitor at the Agent Technology Group (Dr Michal Pechoucek)
- Institute of Informatics, The British University in Dubai** *May 2005*
 Visitor at the DAMAS Group (Dr Iyad Rahwan)
- Department of Information Systems, University of Melbourne** *Jul 2003–Sep 2003*
 Visitor at the Agents Group (Prof Liz Sonenberg)

Teaching

School of Informatics, The University of Edinburgh

- Data Ethics, AI, and Responsible Innovation MOOC** *2019–20*
 Co-led design and delivery of free online course with over 2500 participants to date
- Agent-Based Systems (3rd/4th year course)** *2005/06–2016/17 (except 2009/10)*
 Designed course in 2005, revised in 2010, and again for online delivery in 2016/17
- Informatics 2D: Reasoning and Agents (2nd year course)** *2005/06–2008/09, 2014/15, 2015/16*
 Lecturer; co-developed content of new course in 2005
- Multi-Agent Semantic Web Systems (MSc course)** *2010/11, 2011/12*
 Lecturer
- Knowledge Engineering (MSc course)** *2004/05*
 Lecturer; significantly revised course content

International School for New Media, University of Lübeck (Germany)

- Artificial Intelligence (MSc course)** *2006/07*
 Invited Guest Lecturer; taught 30-hour short intensive foundations course

Department of Informatics, Technical University of Munich

- Socionics (3rd/4th year and MSc course)** *2000/01*
 Co-developed and delivered new interdisciplinary seminar-style course
- Formal Methods in Distributed Intelligent Systems (3rd/4th year and MSc course)** *2000/01*
 Co-developed and delivered new seminar-style course

Introduction to Artificial Intelligence (2nd year course) 2001/02, 2002/03
Organised seminar-style course three times

Methods in Artificial Intelligence (2nd year course) 2002/03
Developed and delivered new programming practical course twice

Unix Tools (1st/2nd year course) 2000/01, 2002/03
Co-organised seminar-style course five times

Taught student project supervision

MSc Projects, The University of Edinburgh since 2004
Supervised a total of 44 MSc dissertation projects

Undergraduate Projects, The University of Edinburgh since 2004
Supervised a total of 23 final-year individual projects

System Development Projects, Technical University of Munich 2001–2003
Students: Stanislavs Bardins, Johann Duscher, Christian Pacher

Diploma Theses, Technical University of Munich 2001–2003
Marco Wolf: *Strategic Opponent Classification in Multiagent Systems*
Felix Fischer: *Frame-based Learning and Generalisation for Multiagent Communication*

Research Student Supervision & Examination

Principal Supervision Duties

1. Matei Craciun (MSc by Research, completed) 2014 – 2015
Coalition Formation under Uncertainty

2. Matthew Crosby (PhD candidate, completed) 2009 – 2013
Strategic Multiagent Planning

3. Alexandros Belesiotis (PhD, completed) 2007 – 2012
Argumentation-Based Conflict Resolution in Planning

4. George Christelis (PhD, completed) 2007 – 2011
Automated Norm Synthesis

5. Iain Wallace (PhD, completed) 2006 – 2010
Practical Social Reasoning

6. Xavier Rafael Palou (MSc by Research, completed) 2006 – 2008
Distributed Collaborative Learning

Second Supervisor Duties

Assistant supervisor for PhD projects since 2004
15 PhD projects overall, 12 of which have been successfully completed

External Examiner Appointments

1. Satyendra Singh Chouhan (PhD, IIT Roorkee) Jun 2017
Multiagent Planning with Interacting Actions (supervisor: Rajdeep Niyogi)

2. Jack Hargreaves (PhD, University of Birmingham) Apr 2017
Planning and Acting in Multi-Agent Environments (supervisor: Nick Hawes)

3. Andrew Larkham (PhD, University of Surrey) Jun 2016
Application of Agent-Based Models to Carbon Taxes on ICT (supervisor: Paul Krause)

4. Sergio Pajares (PhD, UPV Valencia) Jan 2016
Defeasible Argumentation for Cooperative Multi-Agent Planning (supervisor: Eva Onaindia)

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| 5. Kleanthis Malialis (PhD, University of York)
<i>Reinforcement learning for intrusion detection</i> (supervisor: Dan Kudenko) | <i>Oct 2014</i> |
| 6. Sofia Panagiotidi (PhD, UPC Barcelona)
<i>Introducing Norms into Practical Reasoning Agents</i> (supervisor: Javier Vasquez) | <i>Sep 2014</i> |
| 7. José Such (PhD, UPV Valencia)
<i>Security and privacy in multiagent systems</i> (supervisor: Ana García) | <i>Nov 2011</i> |
| 8. Leonidas Georgopoulos (PhD, EPF Lausanne)
<i>Consensus-finding in networks using distributed learning</i> (supervisor: Martin Hasler) | <i>Mar 2011</i> |
| 9. Manuel Atencia (PhD, CSIC/UAB Barcelona)
<i>Semantic Alignment in the Context of Agent Interaction</i> (supervisor: Marco Schorlemmer) | <i>May 2010</i> |
| 10. Tshiamo Motshegwa (PhD, City University London)
<i>Distributed Termination Detection for Multiagent Protocols</i> (supervisor: Eduardo Alonso) | <i>Sep 2009</i> |

Internal Examiner Appointments

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| Internal examiner for PhD, DSc, and MSc by Research theses
Examined ten research theses at the School of Informatics | <i>2006–2018</i> |
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Academic Administration

Teaching Administration

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| Convenor, Data Science, Technology and Innovation Oversight Committee
Chairing College-wide online learning programme management committee | <i>since June 2018</i> |
| PhD Student Selector, School of Informatics
Responsible for PhD applications to Centre for Intelligent Systems and their Applications | <i>Aug 2014 – Jul 2017</i> |
| Coordinator of Taught Programme Review, School of Informatics
Coordinated the 5-year external review of all our teaching for QA purposes | <i>Jun 2014–Feb 2015</i> |
| Director of Teaching, School of Informatics
Responsible for the organisation and delivery of all teaching at the School of Informatics | <i>Aug 2013–Jul 2014</i> |
| Deputy Director of Teaching, School of Informatics
Convenor of Teaching Committee, School Curriculum Approval Officer | <i>Aug 2012–Jul 2013</i> |
| Programme Director, School of Informatics MSc Programmes
Course Organiser for five taught postgraduate programmes and up to 200 students per year | <i>Aug 2010–Jul 2012</i> |
| Co-Ordinator, European Masters in Informatics
Managed Erasmus Mundus-funded collaborative international postgraduate programme | <i>Nov 2004–Aug 2009</i> |
| Director of Studies, School of Informatics Informatics MSc Programmes
Advising and supporting 50 to 100 taught postgraduate students each year | <i>Aug 2005–Jul 2009</i> |

Committee Membership

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| Edinburgh Centre for Design Informatics Steering Board
Contributing to steering committee of interdisciplinary University research centre | <i>since Oct 2019</i> |
| AI and Data Ethics Board
Member of University-wide advisory board for ethical governance of data and AI | <i>since Jan 2019</i> |
| Edinburgh Centre for Statistics Steering Committee
Advising new University-wide research centre | <i>since Oct 2018</i> |
| Edinburgh Centre for Data, Culture, and Society Steering Committee
Contributing to oversight committee for new University-wide research centre | <i>since Aug 2018</i> |

Data-Driven Innovation Programme Board Representing Bayes at management board for ESES City Region Deal funding programme	<i>since Jan 2018</i>
Bayes Innovation Project Board, Scottish Enterprise Representing Bayes Directorate at Board for £3m externally startup project for the Centre	<i>since Jan 2018</i>
Festivals Digital Task Group, Scottish Enterprise Representing the University at digital innovation group for the Edinburgh festivals	<i>May 2018–May 2019</i>
Near Future Teaching Group, University of Edinburgh Contributing to development of visions for future teaching and learning across the University	<i>Oct 2016 – Sep 2018</i>
Internal Expert, School of GeoSciences, University of Edinburgh Internal expert for 5-year Postgraduate Programme Review	<i>Mar 2016</i>
Research Committee, School of Informatics Institute representative in committee advising Head of Research	<i>since Aug 2014</i>
Strategy Committee, School of Informatics Institute representative in committee advising Head of School	<i>Aug 2014 – Jul 2017</i>
Equality and Diversity Committee, School of Informatics Contributing to School's Equality and Diversity Policies and Activities	<i>Nov 2015 – Jul 2017</i>
PhD Selection Committee, School of Informatics Responsible for PhD applications to Centre for Intelligent Systems and their Applications	<i>Aug 2014 – Jul 2017</i>
Senatus Academicus of the University of Edinburgh Non-professorial representative of the College of Science and Engineering	<i>Aug 2013 – Jul 2017</i>
College Learning and Teaching Committee School representative on College of Science and Engineering committee	<i>Aug 2013 – Jul 2014</i>

External Appointments

External Examiner for MSc Artificial Intelligence University of Aberdeen	<i>since Oct 2017</i>
Advisory Board Member of Computer Science Department Czech Technical University in Prague	<i>since Jul 2016</i>
External Evaluator for Faculty Promotions University of Macedonia, Thessaloniki, Greece	<i>Jan 2016</i>
External Evaluator for Faculty Appointments University of the Aegean, Greece	<i>Nov 2015</i>
Panel Member, School of Engineering and Informatics, University of Sussex External expert for validation of new undergraduate and postgraduate courses	<i>Apr 2014</i>
External Evaluation Committee Member, Hellenic QAA Agency Dept. of Information and Communication Systems Engineering, University of the Aegean	<i>Dec 2013</i>

Talks and Presentations

Invited talks at scientific events

7. Symposium on Biases in Human Computation & Crowdsourcing, Sheffield, UK Invited talk on <i>Algorithmic Fairness</i>	<i>Oct 2019</i>
6. Computational Decision Making and Data Science Workshop, Belgrade, Serbia Invited talk on <i>Making Smart Societies Fair</i>	<i>Jul 2017</i>

- 5. **AMEC/TADA Workshop at AAMAS 2015, Istanbul, Turkey** May 2015
Invited talk on *Mechanism Design in the Wild*
- 4. **SAGES Modelling Human Behaviour Workshop, Dundee, UK** Dec 2012
Invited talk on *Cognitive Modelling of Human Behaviour*
- 3. **SICSA Conference 2011, Edinburgh, UK** May 2011
Invited talk, *Collective Intelligence – A Multiagent Systems Perspective*
- 2. **AAMAS 2011 Doctoral Consortium, Taipei, Taiwan** May 2011
Invited talk, *Representations and Reasoning*
- 1. **Fifth Symposium on Adaptive Agents and Multiagent Systems, Paris, France** Mar 2005
Invited keynote, *Multiagent Learning: Towards an New Synthesis*

Invited Talks at other Universities and Research Institutes

- 27. **Edinburgh Napier University, United Kingdom** Nov 2019
School of Computing Seminar, *Democratic self-regulation and fairness in future cyber societies*
- 26. **University of Muenster, Germany** May 2019
Situating Computing and Interaction Lab, *Toward Ethical AI (not more AI ethics)*
- 25. **Örebro University, Sweden** May 2019
Centre for Applied Autonomous Sensor Systems, *Anticipatory AI*
- 24. **The Alan Turing Institute, London, United Kingdom** Mar 2019
Fairness, Transparency, and Privacy Seminar *From AI ethics to ethical AI*
- 23. **Open University of Cyprus, Nicosia, Cyprus** Oct 2018
CyCAT Opening Event, *Towards Ethical AI (no more AI ethics, please)*
- 22. **University of Southern California, Los Angeles, CA, USA** Nov 2017
Intelligent Decision Making Lab, Seminar, *Fairness in Multiagent Coordination*
- 21. **MIT, Cambridge, MA, USA** Oct 2017
Scalable Cooperation Seminar, *Algorithmic Fairness*
- 20. **University of Leeds, Leeds, United Kingdom** Jun 2016
School of Computing Colloquium, *Diversity in Action: The SmartSociety perspective*
- 19. **University of Aberdeen, Aberdeen, United Kingdom** Mar 2016
Computing Science Seminar, *Diversity-Aware AI – The Next Frontier?*
- 18. **University of Durham, Durham, United Kingdom** Nov 2015
ACiD Group Seminar, *Algorithms for the Sharing Economy*
- 17. **Heriot-Watt University, Edinburgh, United Kingdom** Oct 2015
SWeL Group Seminar, *The ESSENCE Project – Toward ‘Meaning Computing’*
- 16. **Czech Technical University, Prague** Oct 2014
Agent Technology Group Lecture, *Some Interesting Problems in Social Computation*
- 15. **Universidad Rey Juan Carlos, Madrid** Oct 2013
CETINIA Invited Lecture *Multiagent Planning for Social Computation*
- 14. **Technical University of Crete, Chania, Greece** Jul 2013
Invited talk, *Multiagent Systems for Social Computation: The SmartSociety Approach*
- 13. **King’s College London** Jul 2013
AIS Seminar Series, *Rationality in Communication: From Learning to Planning and Back*
- 12. **University of Porto, Porto, Portugal** Jul 2012
AI Seminar Series, *Multiagent Planning Problems in Next-Generation Transportation Systems*

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| 11. Harvard University, Cambridge, MA
EconCS/AI Research Group Seminar, <i>Towards Knowledge-Based Strategic Planning</i> | Jul 2010 |
| 10. Maastricht University, Maastricht, The Netherlands
Department of Knowledge Engineering Seminar, <i>Towards a "Strategic" Web</i> | Jan 2010 |
| 9. RWTH Aachen University, Aachen, Germany
Knowledge-Based Systems Group Seminar, <i>Strategic Knowledge-Based Technologies</i> | Jan 2010 |
| 8. Universitat Politècnica de Catalunya, Barcelona, Spain
Multiagent Systems Group Seminar, <i>Towards a Strategic Web</i> | Nov 2009 |
| 7. Artificial Intelligence Research Institute (IIIA), Bellaterra, Spain
Multiagent Systems Group Seminar, <i>Current Research at the Agents Group in Edinburgh</i> | Nov 2009 |
| 6. Universitat Pompeu Fabra, Barcelona, Spain
Artificial Intelligence Group Seminar, <i>Knowledge-Based Reasoning about Strategic Interaction</i> | Nov 2009 |
| 5. University of Aberdeen, Aberdeen
CS Department Seminar, <i>Towards Practical Social Reasoning for Open Multiagent Systems</i> | Oct 2006 |
| 4. University of Essex, Colchester
CS Department Research Seminar, <i>Agents, Interaction & Learning: Advances and Perspectives</i> | Dec 2005 |
| 3. British University in Dubai, Dubai, UAE
Open Lecture Series, <i>Intelligent Agents on the Web – Some Ideas and Challenges</i> | May 2005 |
| 2. Humboldt-University, Berlin, Germany
Artificial Intelligence Group Seminar, <i>Interaction Frames in Multiagent Systems</i> | May 2004 |
| 1. University of Melbourne & Royal Melbourne Institute of Technology
AgentsVic Meeting, <i>Computational Interaction Frames</i> | Jul 2003 |

Invited Tutorials at Research Schools

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| 9. Asser Institute Winter Academy AI and International Law, The Netherlands
Tutorial on <i>Ethical Design of AI Systems</i> | Jan 2020 |
| 8. International Joint Conference on AI (IJCAI 2019), Macau
Tutorial on <i>AI Ethics</i> | Aug 2019 |
| 7. Advanced Course on AI (ACAI 2019), Chania, Greece
Tutorial on <i>AI Ethics</i> | Jul 2019 |
| 6. Interdisciplinary College IK 2017, Günne, Germany
Tutorial on <i>Evolution of Interaction and Meaning on the Web</i> | Mar 2017 |
| 5. Third ESSENCE Summer School, Como, Italy
Tutorial on <i>Evolution of Collective Adaptive Systems on the Web</i> | Sep 2016 |
| 4. 16th European Agent Systems Summer School, Chania, Greece
Tutorial on <i>Introduction to Agents and Multiagent Systems</i> | Jul 2014 |
| 3. 15th European Agent Systems Summer School, London, UK
Tutorial on <i>Agent and Multiagent Systems Research Methodologies</i> | Jul 2013 |
| 2. First Creta Multiagent Systems Summer School, Chania, Greece
Tutorial on <i>Introduction to Multiagent Systems Research</i> | Jul 2013 |
| 1. First Dubai Agents & Multi-Agent Systems School, Dubai, UAE
Tutorial on <i>Learning in Multiagent Systems</i> | Jan 2007 |

Public and Industry Engagement Events

- 11. Demystifying Data, Scottish Investment Operations, Edinburgh** Oct 2019
Presentation about Data and AI to financial sector experts
- 10. AI Ethics in the Financial Sector Conference, The Alan Turing Institute, London** Jul 2019
Presentation of Algorithmic Wealth Allocation
- 9. Productforge Digital Health Hackathon, Edinburgh** Feb 2019
Mentor for interdisciplinary Hackathon
- 8. AI and You, Bayes Centre, Edinburgh** Dec 2018
Presentation to Institute of Practitioners in Advertising audience
- 7. AI: Past, Present, and Future, O2 Blue Door Conference, London, UK** Sep 2018
Presentation at annual O2 business conference with 400 industry participants
- 6. Ethical AI Hackathon, Edinburgh** Jul 2018
Organiser for interdisciplinary student Hackathon
- 5. AI & Law Student Hackathon, Edinburgh** Mar 2017
Mentor and judge for interdisciplinary student Hackathon
- 4. Anthrobotics Initiative Cross-Disciplinary Lectures, Edinburgh** Sep 2016–Mar 2017
Computational Thinking for Non-Computer Scientists (five lectures)
- 3. National Endowment for Science, Technology and the Arts (Nesta), London, UK** May 2015
Invited talk on *Engineering Collective Intelligence*
- 2. Marie Curie Researchers' Night, National Museum of Scotland, Edinburgh, UK** Sep 2014
Meet the Experts: Common-Sense Reasoning (event for families)
- 1. TEDx University of Edinburgh, Edinburgh, UK** Feb 2014
The Society of Computation and the Computation of Society (talk)

Presentations at scientific events

- 18. Scottish Argumentation Day, University of Aberdeen, Aberdeen, UK** Jun 2016
The Future of Argumentation?
- 17. SICSA Mobility in the Future Workshop, University of Edinburgh, Edinburgh** May 2016
No Passenger Left Behind? Smart urban transportation between aggregation & personalisation
- 16. SICSA Transportation Workshop, University of Stirling, Stirling, UK** Jan 2015
Travelling collectives: The human side of transportation modelling
- 15. MFSC Workshop at AAMAS 2015, Istanbul, Turkey** May 2015
Agent Protocols for Social Computation
- 14. AAMAS 2014, Paris, France** May 2014
Multiagent Systems for Social Computation
- 13. Computer-Mediated Social Sense-Making Workshop, Edinburgh** Feb 2013
Challenges for Formal Modelling in Computer-Mediated Social Sense-Making
- 12. AAMAS 2007, Honolulu, Hawaii** May 2007
A Framework for Agent-Based Distributed Machine Learning and Data Mining
- 11. AAMAS 2007, Honolulu, Hawaii** May 2007
Dynamic Semantics for Agent Communication Languages
- 10. ArgMAS 2005 Workshop at AAMAS 2005, Utrecht, The Netherlands** Jul 2005
Adaptive Strategies for Practical Argument-Based Negotiation
- 9. MATES 2003 Conference, Erfurt, Germany** Sep 2003
Indicators for Self-Diagnosis: Communication-based Performance Measures

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| 8. AAMAS 2003 Conference, Melbourne, Australia
<i>Interaction is Meaning: A New Model for Communication in Open Systems</i> | <i>July 2003</i> |
| 7. ESAW 2002 Conference, Madrid, Spain
<i>A Schema for Specifying Computational Autonomy</i> | <i>Sep 2002</i> |
| 6. AAMAS 2002 Conference, Bologna, Italy
<i>An Approach to the Analysis and Design of Multiagent Systems Based on Interaction Frames</i> | <i>Jul 2002</i> |
| 5. AAI Spring Symposium on Collaborative Learning Agents, Stanford, CA
<i>Social Complexity Reduction in Multiagent Learning: The Ad Hoc Approach</i> | <i>Mar 2002</i> |
| 4. AOSE 2001 Workshop at Agents'01 Conference, Montreal, Canada
<i>Expectation-oriented analysis and design</i> | <i>May 2001</i> |
| 3. ICMAS 2000 Conference, Boston, MA
<i>Hierarchical common-sense interaction learning</i> | <i>Jul 2000</i> |
| 2. IJCAI 1999 Learning About, From and With Other Agents Workshop, Stockholm
<i>Learning from and about other agents in terms of social metaphors</i> | <i>Aug 1999</i> |
| 1. IJCAI 1999 Learning About, From and With Other Agents Workshop, Stockholm
<i>Learning Cooperation in Repeated Games</i> | <i>Aug 1999</i> |

Participation in Discussion Panels

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| 15. Is Consent Broken?, DMA Webinar, online
Panel on problems around consent in online platforms | <i>May 2020</i> |
| 14. To Err is Machine, We Need to Talk About AI Talks, Edinburgh
Panel on failures and biases in AI | <i>Nov 2019</i> |
| 13. Dark Data: Bias, Trust, and Inclusion, Beyond Conference, Edinburgh
Panel on ethical issues around data at creative industries conference | <i>Nov 2019</i> |
| 12. Fairness, Data, and Ethics, Royal Bank of Scotland Data Fest
Panel on ethical issues at industry event | <i>Nov 2019</i> |
| 11. Competition and Markets Authority Consumer Detriment Symposium, Edinburgh
Panel of Digital Markets and Consumer Welfare | <i>Sep 2019</i> |
| 10. Canada-UK-France Trilateral AI Ethics Workshop, London
Panel on Fairness in AI | <i>Jun 2019</i> |
| 9. CyberUK 2019 Conference, Glasgow
Panel on Ethical Implications of AI | <i>Apr 2019</i> |
| 8. Digital Cities 2018 Edinburgh and Southeast Scotland Conference, Edinburgh
Panel on the Data-Driven Innovation Programme | <i>Mar 2019</i> |
| 7. UNICA Seminar on Research Policies and Urban Challenges, Brussels, Belgium
Panel on University & Urban Challenges | <i>Feb 2019</i> |
| 6. ICAEW Futures Salon on Professionalism and AI, Edinburgh, United Kingdom
Panel on the impact of AI on accountancy | <i>Sep 2017</i> |
| 5. Anthrobotics Workshop, Edinburgh, United Kingdom
Panel on "Are we becoming Anthrobots?" | <i>Mar 2016</i> |
| 4. Agent Verification Workshop, Liverpool, United Kingdom
Panel on Challenges in Agent Verification | <i>Sep 2015</i> |
| 3. IFIP Summer School on Privacy and Identity Management, Edinburgh
Panel on Privacy and Ethics: The SmartSociety Initiative and its Challenges | <i>Aug 2015</i> |

2. ICT Days Trento, Italy Mar 2015
Panel on Promises and Risks of Social Computation

1. HAIDM 2014 Workshop at AAMAS 2014, Paris, France May 2014
Panel on Research Challenges in Human-Agent Decision Making

Media Appearances and Coverage

An AI masters the video game StarCraft II, Nature Podcast Oct 2019
Appearance on podcast as expert commenting on new advances in game-playing AI

Brainwaves: Love, Life, and Algorithms, BBC Scotland Feb 2019
Appeared on radio programme as expert on algorithm ethics

What are the future trends for AI in business?, IDG Connect Nov 2017
Interview on the importance of AI for business

We need to talk about Wall-E, The Times (Scottish Edition) Mar 2017
Coverage of our work in the Anthrobotics Initiative (media coverage)

Fundamentals of Collective Adaptive Systems Online Reading Room Apr 2015
Learning to Speak the Language of Collectives (article)

Khaleej Times, Dubai (reprinted at ACM TechNews) Oct 2005
A Matter of Artificial Intelligence (interview on the future of AI)

Publications

Theses

1. M. Rovatsos. *Computational Interaction Frames*. PhD thesis, Department of Informatics, Technical University of Munich, 2004
2. M. Rovatsos. LAYLA – An InteRRaP Extension for Layered Learning in Repeated Games. Diploma Thesis, Department of Informatics, Universität des Saarlandes, Saarbruecken, Germany, 1999

Edited Volumes and Proceedings

1. M. Rovatsos, G. Vouros, and V. Julian, editors. *Multi-Agent Systems and Agreement Technologies. 13th European Conference, EUMAS 2015, and Third International Conference, AT 2015, Athens, Greece, December 17-18, 2015, Revised Selected Papers*, volume 9571 of LNAI. Springer International Publishing, 2016
2. D. Miorandi, V. Maltese, M. Rovatsos, A. Nijholt, and J. Stewart, editors. *Social Collective Intelligence. Combining the Powers of Humans and Machines to Build a Smarter Society*. Computational Social Sciences Series. Springer-Verlag, 2014
3. M. Klusch, M. Rovatsos, and T. Payne, editors. *Cooperative Information Agents X (CIA 2006), Tenth International Workshop, Edinburgh, UK, 11th-13th September*, volume 4149 of *Lecture Notes in Computer Science*. Springer-Verlag, Berlin, Germany, 2006. 477 pages
4. M. Nickles, M. Rovatsos, and G. Weiss, editors. *Agents and Computational Autonomy - Potentials, Risks and Solutions. Postproceedings of the First International Workshop (AUTONOMY 2003), July 14, 2003, Melbourne, Australia*, volume 2969 of *Lecture Notes in Computer Science*. Springer-Verlag, 2004. 275 pages

Invited Book Chapters

1. M. Rovatsos. Anticipatory Artificial Intelligence. In R. Poli, editor, *Handbook of Anticipation*, page 27 pages. Springer International, 2017. to appear
2. M. Rovatsos, D. Diochnos, and M. Craciun. Agent Protocols for Social Computation. In *Advances in Social Computing and Multiagent Systems*, volume 541 of *CCIS*, pages 94–111. Springer International, 2015

3. M. Rovatsos, I. Rahwan, F. Fischer, and G. Weiss. Practical Strategic Reasoning and Adaptation in Rational Argument-Based Negotiation. In S. Parsons, N. Maudet, P. Moraitis, and I. Rahwan, editors, *Argumentation in Multi-Agent Systems II*, volume 4049 of *Lecture Notes in Computer Science*, pages 122–137. Springer-Verlag, Berlin, Germany, 2006
4. F. Fischer, M. Rovatsos, and G. Weiss. Adaptiveness in agent communication: Application and adaptation of conversation patterns. In R. van Eijk, R. Flores, and M.-P. Huget, editors, *Agent Communication*, volume 3859 of *Lecture Notes in Computer Science*, pages 211–226. Springer-Verlag, Berlin, Germany, 2006
5. M. Nickles, M. Rovatsos, W. Brauer, and G. Weiß. Communication Systems: A Unified Model of Socially Intelligent Systems. In K. Fischer, M. Florian, and T. Malsch, editors, *Socionics: Scalability of Complex Social Systems*, volume 3413 of *Lecture Notes in Artificial Intelligence*, pages 289–313. Springer-Verlag, Berlin, Germany, 2005
6. M. Rovatsos and K. Paetow. On the Organisation of Social Experience: Scaling up Social Cognition. In K. Fischer, M. Florian, and T. Malsch, editors, *Socionics: Scalability of Complex Social Systems*, volume 3413 of *Lecture Notes in Artificial Intelligence*, pages 155–175. Springer-Verlag, Berlin, Germany, 2005
7. M. Rovatsos and G. Weiß. Autonomous Software. In S. K. Chang, editor, *Handbook of Software Engineering and Knowledge Engineering. Volume 3: Recent Advances*, pages 63–84. World Scientific Publishing, River Edge, NJ, 2005
8. M. Rovatsos, M. Nickles, and G. Weiss. An Empirical Model of Communication in Multiagent Systems. In F. Dignum, editor, *Advances in Agent Communication*, volume 2922 of *Lecture Notes in Artificial Intelligence*, pages 18–36. Springer-Verlag, Berlin, Germany, 2004
9. M. Rovatsos, G. Weiß, and M. Wolf. Multiagent Learning for Open Systems: A Study in Opponent Classification. In E. Alonso, D. Kazakov, and D. Kudenko, editors, *Adaptive Agents and Multi-Agent Systems*, volume 2636 of *Lecture Notes in Artificial Intelligence*, pages 66–87. Springer-Verlag, Berlin, Germany, 2003

Refereed Journals

1. H. Webb, M. Patel, M. Rovatsos, A. Davoust, S. Ceppi, A. Koene, L. Dowthwaite, V. Portillo, M. Jirotko, and M. Cano. It would be pretty immoral to choose a random algorithm: Opening up algorithmic interpretability and transparency. *Journal of Information, Communication and Ethics in Society*, 2019. to appear
2. M. Rovatsos, D. Gromann, and G. Bella. The Taboo Challenge Competition. *AI Magazine*, 39(1):84–87, 2018
3. O. Scekcic, T. Schiavinotto, S. Videnov, M. Rovatsos, H. Truong, D. Miorandi, and S. Dustdar. A Programming Model for Hybrid Collaborative Adaptive Systems. *IEEE Transactions on Emerging Topics in Computing*, May 2017. 12 pages
4. Z. Wen, R. Yang, P. Garraghan, T. Lin, J. Xu, and M. Rovatsos. Fog Orchestration for IoT Services: Issues, Challenges and Directions. *IEEE Internet Computing*, 21(2):16–24, March/April 2017
5. A. White, A. Tate, and M. Rovatsos. Improving Plan Execution Robustness through Capability Aware Maintenance of Plans by BDI Agents. *International Journal of Agent-Oriented Software Engineering*, 5(4):306–335, 2017
6. J. Such and M. Rovatsos. Privacy Policy Negotiation in Social Media. *ACM Transactions on Autonomous and Adaptive Systems*, 11(1):4:1–4:29, 2016
7. J. Hrcir, M. Rovatsos, and M. Jakob. Ridesharing on timetabled transport services: A multiagent planning approach. *Journal of Intelligent Transportation Systems*, 19:89–105, 2015
8. I. Wallace and M. Rovatsos. A Computational Framework for Practical Social Reasoning. *Computational Intelligence*, 31:69–105, 2015
9. E. Serrano, M. Rovatsos, and J. Botia. Data Mining Agent Conversations: A Qualitative Approach to Multiagent Systems Analysis. *Information Sciences*, 230:132–146, 2013
10. A. Manataki, Y. Chen-Burger, and M. Rovatsos. SColog: A logic-based approach to analysing supply chain operation dynamics. *Expert Systems with Applications*, 41:23–38, 2014
11. Jan Tožička, M. Rovatsos, M. Pěchouček, and Štěpán Urban. MALEF: Framework for distributed machine learning and data mining. *International Journal on Intelligent Information and Database Systems*, 2(1):6–24, 2008

12. M. Nickles, M. Rovatsos, M. Schmitt, W. Brauer, F. Fischer, T. Malsch, K. Paetow, and G. Weiss. The Empirical Semantics Approach to Communication Structure Learning and Usage: Individualistic vs. Systemic Views. *Journal of Artificial Societies and Social Simulation*, 10(1), 2007. (online journal)
13. G. Weiß, M. Nickles, M. Rovatsos, and F. Fischer. Specifying the Intertwining of Cooperation and Autonomy in Agent-based Systems. *Journal of Networks and Computer Applications*, 30:1196–1215, August 2007
14. M. Nickles, M. Rovatsos, and G. Weiss. Expectation-oriented modeling. *Engineering Applications of Artificial Intelligence*, 18(8):891–918, 2005
15. F. Fischer and M. Rovatsos. An Empirical Semantics Approach to Reasoning About Communication. *Engineering Applications of Artificial Intelligence*, 18(4):809–823, 2005. Special Issue on Best Papers of CIA 2004
16. M. Nickles, M. Rovatsos, W. Brauer, and G. Weiss. Towards a Unified Model of Sociality in Multiagent Systems. *International Journal of Computer and Information Science*, 5(2):73–88, 2004
17. G. Weiß, J. Duscher, M. Nickles, and M. Rovatsos. Spezifikation von Softwareautonomie. *Künstliche Intelligenz*, 18(4):44–50, 2004. (Article in the German AI Journal, English title “Specification of software autonomy”.)
18. M. Schillo, M. Rovatsos, and P. Funk. Using trust for detecting deceitful agents in artificial societies. *Applied Artificial Intelligence*, 14(8):825–849, 2000

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1. A. Davoust and M. Rovatsos. Social Contracts for Non-cooperative Games. In *Proceedings of the Third AAAI/ACM Conference on Artificial Intelligence, Ethics, and Society (AIES 2020)*, New York, NY, February 7-8, 2020. to appear
2. H. Webb, A. Davoust, M. Rovatsos, M. Patel, A. Koene, and M. Jirotko. A Responsive Engagement Approach to Promote the Development of ‘Fairer’ Algorithms. In *Proceedings of the European Conference on the Impact of Artificial Intelligence and Robotics (ECIAIR 2019)*, Oxford, UK, October 31-November 1, 2019
3. M. Patel, H. Webb, M. Jirotko, A. Davoust, R. Gales, M. Rovatsos, and A. Koene. Harnessing Interdisciplinarity to Promote the Ethical Design of AI Systems. In *Proceedings of the European Conference on the Impact of Artificial Intelligence and Robotics (ECIAIR 2019)*, Oxford, UK, October 31-November 1, 2019
4. M. Rovatsos, D. Diochnos, Z. Wen, S. Ceppi, and P. Andreadis. SmartOrch: An Adaptive Orchestration System for Human-Machine Collectives. In *Proceedings of the Special Track on Collective Adaptive Systems and Middleware of the 32nd ACM Symposium on Applied Computing (SAC2017)*, pages 37–44, Marrakech, Morocco, 2017
5. Luis de Miranda, Subramanian Ramamoorthy, and Michael Rovatsos. We, Anthrobot: Learning From Human Forms of Interaction and Esprit de Corps to Develop More Plural Social Robotics. In J. Seibt, M. Norskov, and S. Schack Andersen, editors, *What Social Robots Can and Should Do? Proceedings of the Robophilosophy 2016 / TRANSOR 2016 Conference*, volume 290 of *Frontiers in Artificial Intelligence and Applications*, pages 48–59, Aarhus, Denmark, October 17-21, 2016. IOS Press
6. A. White, A. Tate, and M. Rovatsos. CAMP-BDI: A Pre-emptive Approach for Plan Execution Robustness in Multiagent Systems. In *Proceedings of the 18th International Conference on Principles and Practice of Multi-Agent Systems (PRIMA 2015)*, pages 65–84, Bertinoro, Italy, 26-30 October, 2015
7. O. Scekcic, T. Schiavinotto, D. I. Diochnos, M. Rovatsos, H. Truong, I. Carreras, and S. Dustdar. Programming Model Elements for Hybrid Collaborative Adaptive Systems. In *Proceedings of the 1st IEEE International Conference on Collaboration and Internet Computing (CIC 2015)*, pages 278–287, Hangzhou, China, 2015
8. O. Scekcic, D. Miorandi, T. Schiavinotto, D. I. Diochnos, A. Hume, R. Chenu-Abente, H. Truong, M. Rovatsos, I. Carreras, S. Dustdar, and F. Giunchiglia. Smartsociety – A Platform for Collaborative People-Machine Computation. In *Proceedings of the 8th IEEE International Conference on Service Oriented Computing & Applications (SOCA 2015)*, pages 147–154, Rome, Italy, 2015

9. M. Crosby, A. Jonsson, and M. Rovatsos. A single-agent approach to multiagent planning. In *Proceedings of the 21st European Conference on Artificial Intelligence (ECAI 2014)*, pages 237–242, Prague, Czech Republic, August 14-18, 2014
10. M. Rovatsos. Multiagent Systems for Social Computation. In A. Lomuscio, P. Scerri, A. Bazzan, and M. Huhns, editors, *Proceedings of the 13th International Joint Conference on Autonomous Agents and Multiagent Systems (AAMAS 2014)*, pages 1165–1168, Paris, France, 5th-9th May, 2014. Second prize for best challenge paper
11. M. Crosby, M. Rovatsos, and R. Petrick. Automated Agent Decomposition for Classical Planning. In *Proceedings of the 23rd International Conference on Automated Planning and Scheduling (ICAPS 2013)*, pages 46–54, Rome, Italy, June 10-14, 2013
12. E. Serrano, M. Rovatsos, and J. Botia. A Qualitative Reputation System for Multiagent Systems with Protocol-Based Communication. In V. Conitzer, M. Winikoff, L. Padgham, and V. van der Hoek, editors, *Proceedings of the Eleventh International Conference on Autonomous Agents Multiagent Systems (AAMAS 2012)*, pages 307–314, Valencia, Spain, June 4-8, 2012
13. A. Jonsson and M. Rovatsos. Scaling Up Multiagent Planning: A Best-Response Approach. In *Proceedings of the 21st International Conference on Automated Planning and Scheduling (ICAPS 2011)*, pages 114–121, Freiburg, Germany, June 11-16, 2011
14. A. Manataki, Y.-H. Chen-Burger, and M. Rovatsos. Improving the understanding of supply chain dynamics: Towards an intelligent simulation tool. In *Proceedings of the 17th Conference of the European Operations Management Association (EurOMA 2010)*, Porto, Portugal, 6-9 June, 2010
15. A. Manataki, Y.-H. Chen-Burger, and M. Rovatsos. Towards Improving Supply Chain Coordination through Agent-Based Simulation. In Yves Demazeau, Frank Dignum, Juan M. Corchado, Javier Bajo, Rafael Corchuelo, Emilio Corchado, Florentino Fernández-Riverola, Vicente J. Julián, Pawel Pawlewski, and Andrew Campbell, editors, *Proceedings of the Eighth International Conference on Practical Applications of Agents and Multi-Agent Systems (PAAMS 2010)*, volume 71 of *Advances in Intelligent and Soft Computing*, pages 217–224, Salamanca, Spain, 26th-28th April, 2010. Springer-Verlag, Berlin
16. G. Christelis, M. Rovatsos, and R. Petrick. Exploiting Domain Knowledge to Improve Norm Synthesis. In Wiebe van der Hoek, Gal A. Kaminka, Yves Lespérance, Michael Luck, and Sandip Sen, editors, *Proceedings of the Ninth International Conference on Autonomous Agents and Multiagent Systems (AAMAS 2010)*, pages 831–838, Toronto, Canada, May 10-14, 2010
17. P. Martin, D. Robertson, and M. Rovatsos. Opportunistic Belief Reconciliation During Distributed Interactions. In Wiebe van der Hoek, Gal A. Kaminka, Yves Lespérance, Michael Luck, and Sandip Sen, editors, *Proceedings of the Ninth International Conference on Autonomous Agents and Multiagent Systems (AAMAS 2010)*, pages 433–440, Toronto, Canada, May 10-14, 2010
18. A. Belesiotis, M. Rovatsos, and I. Rahwan. Agreeing on Plans Through Iterated Disputes. In Wiebe van der Hoek, Gal A. Kaminka, Yves Lespérance, Michael Luck, and Sandip Sen, editors, *Proceedings of the Ninth International Conference on Autonomous Agents and Multiagent Systems (AAMAS 2010)*, pages 765–772, Toronto, Canada, May 10-14, 2010
19. X. R. Palou, M. Rovatsos, M. Mier Perez, and M. Lluch-Ariet. Collaborative Agent-Based Learning for Brain Tumor Diagnosis. In *Proceedings of the Twelfth International Congress of the Catalan Association of Artificial Intelligence (CCIA 2009)*, Cardona, Spain, 2009
20. I. Wallace and M. Rovatsos. Bounded Social Reasoning in the ESB Framework. In S. Decker, J. Sichman, C. Sierra, and C. Castelfranchi, editors, *Proceedings of the Eighth International Joint Conference on Autonomous Agents and Multiagent Systems (AAMAS 2009)*, pages 1097–1104, May 10-15, Budapest, Hungary, 2009
21. G. Christelis and M. Rovatsos. Automated Norm Synthesis in an Agent-Based Planning Environment. In S. Decker, J. Sichman, C. Sierra, and C. Castelfranchi, editors, *Proceedings of the Eighth International Joint Conference on Autonomous Agents and Multiagent Systems (AAMAS 2009)*, pages 161–168, May 10-15, Budapest, Hungary, 2009
22. Jan Tožička, M. Rovatsos, and M. Pěchouček. A Framework for Agent-Based Distributed Machine Learning and Data Mining. In Edmund H. Durfee, Makoto Yokoo, Michael N. Huhns, and Onn Shehory, editors, *Proceedings of the Sixth International Joint Conference on Autonomous Agents and Multiagent Systems (AAMAS 2007)*, pages 96–103, Honolulu, Hawaii, May 14–18, 2007

23. M. Rovatsos. Dynamic Semantics for Agent Communication Languages. In Edmund H. Durfee, Makoto Yokoo, Michael N. Huhns, and Onn Shehory, editors, *Proceedings of the 6th International Joint Conference on Autonomous Agents and Multiagent Systems (AAMAS 2007)*, pages 100–107, Honolulu, Hawaii, May 14–18, 2007
24. F. Fischer, M. Rovatsos, and G. Weiß. Acquiring and Adapting Probabilistic Models of Agent Conversations. In Frank Dignum, Virginia Dignum, Sven Koenig, Sarit Kraus, Munindar P. Singh, and Michael Wooldridge, editors, *Proceedings of the Fourth International Joint Conference on Agents and Multiagent Systems (AAMAS 2005)*, pages 106–113, Utrecht, The Netherlands, 2005
25. M. Nickles, M. Rovatsos, and G. Weiss. Empirical-Rational Semantics of Agent Communication. In N. Jennings, C. Sierra, L. Sonenberg, and M. Tambe, editors, *Proceedings of the Third International Joint Conference on Autonomous Agents and Multiagent Systems (AAMAS 2004)*, pages 94–101, New York, NY, 2004
26. M. Nickles, M. Rovatsos, W. Brauer, and G. Weiss. Towards a Unified Model of Sociality in Multiagent Systems. In W. Dosch and R. Y. Lee, editors, *Proceedings of the ACIS Fourth International Conference on Software Engineering, Artificial Intelligence, Networking and Parallel/Distributed Computing (SNPD 2003), October 16-18, 2003, Lübeck, Germany*, pages 177–187. ACIS, 2003
27. M. Rovatsos, M. Schillo, K. Fischer, and G. Weiss. Indicators for Self-Diagnosis: Communication-based Performance Measures. In M. Schillo, M. Klusch, J. Müller, and H. Tianfield, editors, *Proceedings of the First German Conference on Multiagent System Technologies (MATES 2003), Sep 22-25, 2003, Erfurt, Germany*, volume 2831 of *Lecture Notes in Artificial Intelligence*, pages 25–37, Berlin, Germany, 2003. Springer-Verlag
28. G. Weiß, M. Rovatsos, M. Nickles, and C. Meindl. Capturing Agent Autonomy in Roles and XML. In J. S. Rosenschein, T. Sandholm, M. Wooldridge, and M. Yokoo, editors, *Proceedings of the Second International Joint Conference on Autonomous Agents and Multiagent Systems (AAMAS 2003)*, pages 105–112, Melbourne, Australia, 2003
29. M. Rovatsos, M. Nickles, and G. Weiß. Interaction is Meaning: A New Model for Communication in Open Systems. In J. S. Rosenschein, T. Sandholm, M. Wooldridge, and M. Yokoo, editors, *Proceedings of the Second International Joint Conference on Autonomous Agents and Multiagent Systems (AAMAS 2003)*, pages 536–543, Melbourne, Australia, 2003
30. M. Rovatsos, G. Weiß, and M. Wolf. An Approach to the Analysis and Design of Multiagent Systems based on Interaction Frames. In Maria Gini, Toru Ishida, Cristiano Castelfranchi, and W. Lewis Johnson, editors, *Proceedings of the First International Joint Conference on Autonomous Agents and Multiagent Systems (AAMAS 2002)*, pages 682–689, Bologna, Italy, 2002. ACM Press
31. M. Rovatsos and J. Lind. Hierarchical common-sense interaction learning. In E. H. Durfee, editor, *Proceedings of the Fifth International Conference on Multi-Agent Systems (ICMAS 2000)*, pages 239–246, Boston, MA, 2000. IEEE Computer Society Press

Refereed Workshops and Symposia

1. P. Andreadis, S. Ceppi, M. Rovatsos, and S. Ramamoorthy. Diversity-Aware Recommendation for Human Collectives. In *Proceedings of the 1st International Workshop on Diversity-Aware Artificial Intelligence (DIVERSITY 2016)*, The Hague, The Netherlands, 2016
2. M. Anslow and M. Rovatsos. Aligning Experientially Grounded Ontologies using Language Games. In *Graph Structures for Knowledge Representation and Reasoning, 4th International Workshop, GKR 2015, Buenos Aires, Argentina, July 25, 2015, Revised Selected Papers*, volume 9501 of *Lecture Notes in Artificial Intelligence*, pages 15–31, Switzerland, 2015. Springer International Publishing
3. T. Marques and M. Rovatsos. Toward Domain-Independent Dialogue Planning. In *Fourth International Workshop on Human-Agent Interaction Design and Models (HAIDM 2015)*, Istanbul, Turkey, 4th May, 2015
4. E. Serrano, M. Rovatsos, and J. Botia. An Approach for the Qualitative Analysis of Open Agent Conversations. In *Proceedings of the Third International Workshop on Infrastructures and Tools for Multiagent Systems (ITMAS 2012)*, Valencia, Spain, 2012
5. A. Maghraby, D. Robertson, A. Grandó, and M. Rovatsos. Bridging the specification protocol gap in argumentation. In *Proceedings of the Ninth International Workshop on Argumentation in Multi-Agent Systems (ArgMAS 2012)*, Valencia, Spain, June 2012

6. J. Hrnčir and M. Rovatsos. Applying strategic multiagent planning to real-world travel sharing problems. In *Proceedings of the 7th International Workshop on Agents in Traffic and Transportation (ATT 2012)*, Valencia, Spain, June 5, 2012
7. E. Klein and M. Rovatsos. Temporal Vagueness, Coordination and Communication. In *Vagueness in Communication (ViC 2009), July 20-24, 2009, Bordeaux, France. Revised Selected Papers*, volume 6517 of *Lecture Notes in Artificial Intelligence*, pages 108–126, Berlin, 2011. Springer-Verlag
8. I. Wallace and M. Rovatsos. Executing Specifications of Social Reasoning Agents. In *Proceedings of the Eighth International on Declarative Agent Languages and Technologies (DALT 2010)*, May 12th/13th, Toronto, Canada, 2010
9. A. Belesiotis, M. Rovatsos, and I. Rahwan. A Generative Dialogue System for Arguing about Plans in Situation Calculus. In P. MacBurney, S. Parsons, I. Rahwan, and N. Maudet, editors, *Proceedings of the Sixth International Workshop on Argumentation in Multi-Agent Systems (ArgMAS 2009)*, volume 6057 of *Lecture Notes in Computer Science*, Berlin, 2010. Springer-Verlag
10. B. Collins and M. Rovatsos. Using Hierarchical Machine Learning to Improve Player Satisfaction in a Soccer Videogame. In *Proceedings of the SAB 2006 Workshop on Adaptive Approaches for Optimizing Player Satisfaction in Computer and Physical Games*, Rome, October 1, 2006
11. G. Weiß, F. Fischer, M. Nickles, and M. Rovatsos. Operational Modelling of Agent Autonomy: Theoretical Aspects and a Formal Language. In *Proceedings of the Sixth International Workshop on Agent-Oriented Software Engineering (AOSE 2005), Utrecht, The Netherlands*, volume 3859 of *Lecture Notes in Computer Science*, pages 1–15, Berlin, Germany, 2006. Springer-Verlag
12. P. Besana, D. Robertson, and M. Rovatsos. Exploiting interaction contexts in P2P ontology mapping. In *Proceedings of the Second International Workshop on Peer-to-Peer Knowledge Management (P2PKM 2005)*, San Diego, CA, 2005
13. M. Rovatsos, I. Rahwan, F. Fischer, and G. Weiss. Adaptive Strategies for Practical Argument-Based Negotiation. In *Proceedings of the Second International Workshop on Argumentation in Multi-Agent Systems (ArgMAS 2005)*, Utrecht, The Netherlands, 2005
14. M. Rovatsos and F. Fischer. Hierarchical Reinforcement Learning for Communicating Agents. In *Proceedings of the Second European Workshop on Multiagent Systems (EUMAS 2004)*, Barcelona, Spain, December 15-17, 2004
15. F. Fischer and M. Rovatsos. Reasoning about Communication: A Practical Approach based on Empirical Semantics. In M. Klusch, S. Ossowski, V. Kashyap, and R. Unland, editors, *Proceedings of Cooperative Information Agents VIII, 8th International Workshop (CIA 2004), Erfurt, Germany, September 27-29, 2004*, volume 3191 of *Lecture Notes in Computer Science*, pages 107–122, Berlin et al., 2004. Springer-Verlag
16. M. Nickles, M. Rovatsos, and G. Weiss. Formulating Agent Communication Semantics and Pragmatics as Behavioral Expectations. In R. M. van Eijk, M.-P. Huget, and F. P. M. Dignum, editors, *Agent Communication. International Workshop on Agent Communication, AC 2004. Revised Selected and Invited papers*, volume 3396 of *Lecture Notes in Artificial Intelligence*, pages 153–172, Berlin, Germany, 2005. Springer-Verlag
17. M. Nickles, M. Rovatsos, and G. Weiss. A Schema for Specifying Computational Autonomy. In P. Petta, R. Tolksdorf, and F. Zambonelli, editors, *Engineering Societies in the Agents World III, Third International Workshop (ESAW 2002), Madrid, Spain, September 16–17, 2002, Revised Papers*, volume 2577 of *Lecture Notes in Artificial Intelligence*, pages 82–95. Springer-Verlag, Berlin et al., 2002
18. M. Rovatsos and M. Wolf. Towards Social Complexity Reduction in Multiagent Learning: the ADHOC Approach. In P. Stone and K. Tumer, editors, *Collaborative Learning Agents: Papers from the AAAI Spring Symposium, Technical Report SS-02-02*, Stanford, CA, 2002. AAAI Press
19. W. Brauer, M. Nickles, M. Rovatsos, G. Weiß, and K. F. Lorentzen. Expectation-Oriented Analysis and Design. In *Proceedings of the 2nd Workshop on Agent-Oriented Software Engineering (AOSE 2001) at the Autonomous Agents 2001 Conference*, volume 2222 of *Lecture Notes in Artificial Intelligence*, pages 266–244, Montreal, Canada, May 29 2001. Springer-Verlag, Berlin
20. M. Rovatsos and G. Weiß. Achieving Multiagent Organisation by Organising Agent Experience. In Y. Demazeau, editor, *Pre-proceedings of the 10th European Workshop on Modelling Autonomous Agents in a Multi-Agent World (MAAMAW 2001)*, 2001

21. M. Schillo, P. Funk, and M. Rovatsos. Who can you trust? Dealing with Deception. In R. Falcone, editor, *Proceedings of the Agents-1999 Workshop on Deception, Fraud and Trust in Agent Societies*, Seattle, WA, 1999
22. M. Rovatsos and J. Lind. Learning Cooperation in Repeated Games. In J. M. Vidal and S. Sen, editors, *Proceedings of the IJCAI Workshop "Learning from, with and about other Agents"*, Stockholm, 1999

Refereed Short Papers and Posters

1. A. Koene, S. Ceppi, H. Webb, M. Patel, E. Perez, G. Lane, M. Jirotko, and M. Rovatsos. Algorithmic fairness in online information mediating systems (extended abstract). In *Proceedings of the 9th International ACM Web Science Conference (WebSci'17)*, pages 391–392, Troy, NY, USA, 2017
2. T. Marques and M. Rovatsos. Classical Planning with Communicative Actions. In *Proceedings of the 22nd European Conference on Artificial Intelligence (ECAI 2016)*, pages 1744–1745, The Hague, The Netherlands, 2016
3. H. Herry, P. Anderson, and M. Rovatsos. Choreographing Configuration Changes. In *Proceedings of the 9th International Conference on Network and Service Management (CNSM'13)*, Zurich, October, 2013. short paper
4. A. Maghraby, D. Robertson, A. Grando, and M. Rovatsos. Automated Deployment of Argumentation Protocols. In Bart Verheij, Stefan Szeider, and Stefan Woltran, editors, *Proceedings of the Fourth International Conference on Computational Models of Argument (COMMA 2012)*, pages 197–204, September 10-12, Vienna, Austria, 2012. IOS Press. short paper
5. M. Crosby and M. Rovatsos. Heuristic Multiagent Planning with Self-Interested Agents (Extended Abstract). In P. Yolum, K. Tumer, P. Stone, and L. Sonenberg, editors, *Proceedings of the Tenth International Joint Conference on Autonomous Agents Multiagent Systems (AAMAS 2011)*, pages 1213–1214, Taipei, Taiwan, May 2-6, 2011
6. E. Serrano, M. Rovatsos, and J. Botia. Mining Qualitative Context Models from Multiagent Interactions (Extended Abstract). In P. Yolum, K. Tumer, P. Stone, and L. Sonenberg, editors, *Proceedings of the Tenth International Conference on Autonomous Agents Multiagent Systems (AAMAS 2011)*, pages 1215–1216, Taipei, Taiwan, May 2-6, 2011
7. X. R. Palou and M. Rovatsos. Collaborative Agent-Based Learning with Limited Data Exchange. In S. Decker, J. Sichman, C. Sierra, and C. Castelfranchi, editors, *Proceedings of the Eighth International Joint Conference on Autonomous Agents and Multiagent Systems (AAMAS 2009)*, pages 1191–1192, May 10-15, Budapest, Hungary, 2009. (extended abstract)
8. M. Rovatsos and A. Belesiotis. Advice Taking in Multiagent Reinforcement Learning. In Edmund H. Durfee, Makoto Yokoo, Michael N. Huhns, and Onn Shehory, editors, *Proceedings of the Sixth International Joint Conference on Autonomous Agents and Multiagent Systems (AAMAS 2007)*, pages 237–238, Honolulu, Hawaii, May 14–18, 2007. poster
9. M. Rovatsos, F. Fischer, and G. Weiß. An Integrated Framework for Adaptive Reasoning About Conversation Patterns. In Frank Dignum, Virginia Dignum, Sven Koenig, Sarit Kraus, Munindar P. Singh, and Michael Wooldridge, editors, *Proceedings of the Fourth International Joint Conference on Agents and Multiagent Systems (AAMAS 2005)*, pages 1123–1124, Utrecht, The Netherlands, 2005. poster
10. F. Fischer, M. Rovatsos, and G. Weiss. Hierarchical Reinforcement Learning in Communication-Mediated Multiagent Coordination. In N. Jennings, C. Sierra, L. Sonenberg, and M. Tambe, editors, *Proceedings of the Third International Joint Conference on Agents and Multiagent Systems (AAMAS 2004)*, New York, NY, 2004
11. M. Rovatsos and G. Weiß. Achieving Multiagent Organisation by Organising Agent Experience. In Y. Demazeau, editor, *Pre-proceedings of the 10th European Workshop on Modelling Autonomous Agents in a Multi-Agent World (MAAMAW 2001)*, 2001

Magazine articles

1. D. Hemment, R. Aylett, V. Belle, D. Murray-Rust, E. Luger, J. Hillston, M. Rovatsos, and F. Broz. Experiential ai. *AI Matters*, 5(1):25–31, April 2019
2. M. Rovatsos. We may not cooperate with friendly machines. *Nature Machine Intelligence*, November 2019

Government reports

1. M. Rovatsos, B. Mittelstadt, and A. Koene. *Landscape Summary: Bias in Algorithmic Decision-Making*. Centre for Data Ethics and Innovation, July 2019