

Andrew Koster

Curriculum Vitae

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Summary

I am a senior researcher at SAMSUNG Research Institute Brazil, working in the Digital Education Solutions group to apply computational intelligence in order to create new interaction and personalisation modes upon digital education content. Before joining SAMSUNG, I did postdoctoral research at the Federal University of Rio Grande do Sul (UFRGS) after I had received my PhD in 2012 from the Autonomous University of Barcelona, in Spain, for my research into communication about trust in a multi-agent system. Between receiving my MSc. in Agent Technology from Utrecht University in The Netherlands in 2006 and starting my PhD research at the IIIA in Barcelona in 2008, I worked full-time for Amplixs Interaction Management in The Netherlands as a software architect, where I worked on web-based business applications. I taught both an undergraduate and a graduate course on Artificial Intelligence at UFRGS, and was a Teaching Assistant in a number of courses at Utrecht University. I have written over 20 papers on topics including: Multi-Agent Systems, Agreement Technologies, Ubiquitous Computing, Agent-Oriented Software Engineering, and Social Software. I have reviewed scientific contributions for numerous international journals and conferences.

Academic Formation

- 2012 – 2013 **Postdoctoral studies**, *Department of Computer Science, Federal University of Rio Grande do Sul (UFRGS)*, Porto Alegre, RS, Brazil.
Grant from CAPES in the project “Contribuindo para a realização de *smart cities* através de comunicação inter-veicular”. Advisor: Ana L. C. Bazzan
- 2008 – 2012 **Ph.D. in Computer Science**, *Artificial Intelligence Research Institute (IIIA)*, Bellaterra, Spain, *Cum Laude*.
European Doctorate in Computer Science (Artificial Intelligence) from the Autonomous University of Barcelona, Spain.
Thesis title: “Trust Alignment and Adaptation: Two Approaches for Talking about Trust in Multi-Agent Systems”. Advisors: Dr. Jordi Sabater-Mir and Dr. Marco Schorlemmer at the IIIA-CSIC.
- 2003 – 2006 **Master of Computer Science**, *Utrecht University*, Utrecht, The Netherlands, 7.4.
Master of Computer Science in the program: Agent Technology.
Thesis title: “Supporting impromptu coordination using intelligent software and mobile devices.”
Thesis supervisors: Frank Dignum, John-Jules Meyer (Utrecht University) and Liz Sonenberg (University of Melbourne).
- 2000 – 2006 **B.Sc. in Computer Science**, *Utrecht University*, Utrecht, The Netherlands, 7.5.
- 2000 – 2002 **Propaedeutic course in Mathematics**, *Utrecht University*, Utrecht, The Netherlands, 7.4.

Professional Experience

- Jan. 2015 – now **Research Scientist**, *SAMSUNG Research Institute Brazil, Digital Education Solutions Group*, Campinas, SP, Brazil.
Senior researcher, doing research into the use of artificial intelligence to improve digital education technologies
- Jan. 2014 – Dec. 2014 **Research Scientist**, *SAMSUNG Research Institute Brazil, Department of Mobile Computing*, Campinas, SP, Brazil.
Senior researcher, doing research into the use of artificial intelligence to apply mobile technologies to societal issues in Brazil.
- 2008 – 2012 **Researcher Category G2 (pre-doctoral research contract)**, *Artificial Intelligence Research Institute (IIIA-CSIC)*, Bellaterra, Spain.
Involved in the following projects:
AT [CSD2007-00022] (Agreement Technologies) – involved in WP5: Trust, specifically task 5.1: dynamic semantic alignment of trust and reputation models.
CBIT [TIN2010-16306] (Community-Building Information Technology) – involved in:
○ WP3: Meaning – study the evolution of meaning in a community, specifically how continued interactions change members' understanding of vocabularies and reliability assessments.
○ WP4: Reliability – study the use and evolution of trust and reputation in the three stages of a community: formation, interaction and growth.
- 2005 – 2008 **Software Architect**, *Amplixs Interaction Management*, Soest, The Netherlands.
Design and development of web applications for online data management. Company website: <http://www.amplixs.com/index.php?lang=en>
- 2005 – 2006 **Laboratory Assistant**, *Intelligent Systems Group, Utrecht University*, Utrecht, The Netherlands.
Supervision of the Robot Lab. Main tasks included supervision of students, demonstrations and maintenance.
- 2001 – 2003 **Teaching Assistant**, *CS Department, Utrecht University*, Utrecht, The Netherlands.
Assisted in teaching various undergraduate courses.

Publications

Journal Articles

- [1] Andrew Koster. Trust and argumentation in multi-agent systems. *Argument & Computation*, 5(2-3):123–138, 2014.
- [2] Andrew Koster, Marco Schorlemmer, and Jordi Sabater-Mir. Opening the black box of trust: Reasoning about trust models in a bdi agent. *Journal of Logic and Computation*, 23(1):25–58, 2013.
- [3] Andrew Koster, Marco Schorlemmer, and Jordi Sabater-Mir. Engineering trust alignment: Theory, method and experimentation. *Journal of Human-Computer Studies*, 70(6):450–473, 2012.
- [4] Marco Wiering, Stefan Leijnen, Andrew Koster, Silvain van Weers, and Walther de Back. Autonomous intelligent robots at utrecht university. *International Journal of Advanced Robotic Systems*, 1(2):125–128, 2004.

Book Chapters

- [5] Andrew Koster, Fernando Koch, and Ana L. C. Bazzan. Incentivising crowdsourced parking solutions. In *Citizen in Sensor Networks*, volume 8313 of *LNCS*, pages 36–43, Barcelona, Spain, 2014. Springer.
- [6] Andrew Koster, Fernando Koch, and Yeun Bae Kim. Serendipitous recommendation based on big context. In *Advances in Artificial Intelligence — IBERAMIA 2014*, volume 8864 of *LNCS*, pages 319–330, Santiago, Chile, 2014. Springer.
- [7] Andrew Koster, Allysson Oliveira, Orlando Volpato, Viviane Delvequio, and Fernando Koch. Recognition and recommendation of parking places. In *Advances in Artificial Intelligence — IBERAMIA 2014*, volume 8864 of *LNCS*, pages 675–685, Santiago, Chile, 2014. Springer.
- [8] Andrew Koster, Gabriel de O. Ramos, Ana L. C. Bazzan, and Fernando Koch. Towards a platform for testing and developing privacy-preserving data mining applications for smart grids. In Matthias Klusch, Matthias Thimm, and Marcin Paprzycki, editors, *Multiagent System Technologies*, volume 8076 of *LNCS*, pages 292–305, Koblenz, Germany, 2013. Springer.
- [9] Andrew Koster and Jeff Z. Pan. Ontology, semantics and reputation. In Sascha Ossowski, editor, *Agreement Technologies*, volume 8 of *Law, Governance and Technology*, pages 453–465. Springer, 2013.
- [10] Andrew Koster, Jordi Sabater-Mir, and Marco Schorlemmer. Argumentation and trust. In Sascha Ossowski, editor, *Agreement Technologies*, volume 8 of *Law, Governance and Technology*, pages 441–452. Springer, 2013.
- [11] Andrew Koster, Jordi Sabater-Mir, and Marco Schorlemmer. Trust alignment: a sine qua non of open multi-agent systems. In Robert Meersman, Tharam Dillon, and Pilar Herrero, editors, *Proceedings of On the Move to Meaningful Internet Systems (OTM 2011, Part I)*, volume 7044 of *LNCS*, pages 182–191, Hersonissos, Greece, 2011. Springer.
- [12] Andrew Koster, Jordi Sabater-Mir, and Marco Schorlemmer. A formalization of trust alignment. In Sandra Sandri, Miquel Sànchez-Marré, and Ulises Cortes, editors, *AI Research and Development. Proc. of the Twelfth International Congress of the Catalan Association of Artificial Intelligence (CCIA 2009)*, volume 202 of *Frontiers in Artificial Intelligence and Applications*, pages 169–178, Cardona, Spain, 2009. IOS Press.

Conference Proceedings

- [13] Andrew Koster, Andrea Tettamanzi, Ana L. C. Bazzan, and Célia da Costa Pereira. Using trust and possibilistic reasoning to deal with untrustworthy communication in VANETs. In *Proceedings of the 16th IEEE Annual Conference on Intelligent Transport Systems (IEEE-ITSC)*, pages 2355–2360, The Hague, The Netherlands, 2013. IEEE.
- [14] Andrew Koster, Luiz H. D. Souza, and Ana L. C. Bazzan. Malicious communication in VANETs — lessons learned in microsimulation of traffic. In *X Encontro Nacional de Inteligência Artificial e Computacional (ENIAC)*, Fortaleza, Brazil, 2013.
- [15] Andrew Koster, Jordi Madrenas, Nardine Osman, Marco Schorlemmer, Jordi Sabater-Mir, Carles Sierra, Angela Fabregues, Dave de Jonge, Josep Puyol-Gruart, and Pere Garcia-Calvés. u-Help: Supporting helpful communities with information technology.

In *Proceedings of the First International Conference on Agreement Technologies*, pages 378–392, Dubrovnik, Croatia, 2012. CEUR.

- [16] Andrew Koster, Jordi Sabater-Mir, and Marco Schorlemmer. Personalizing communication about trust. In *Eleventh International Conference on Autonomous Agents and Multiagent Systems (AAMAS'12)*, pages 517–526, Valencia, Spain, 2012. IFAAMAS.
- [17] Andrew Koster, Jordi Sabater-Mir, and Marco Schorlemmer. A formal argumentation dialogue for personalised trust communication. In *Proc. of the Fifteenth Workshop "Trust in Agent Societies" at AAMAS '12*, pages 55–66, Valencia, Spain, 2012. IFAAMAS.
- [18] Andrew Koster. Why does trust need aligning? In *Proc. of the Thirteenth Workshop "Trust in Agent Societies" at AAMAS '10*, pages 125–136, Toronto, Canada, 2010. IFAAMAS.
- [19] Andrew Koster, Jordi Sabater-Mir, and Marco Schorlemmer. Engineering trust alignment: a first approach. In *Proc. of the Thirteenth Workshop "Trust in Agent Societies" at AAMAS '10*, pages 111–122, Toronto, Canada, 2010. IFAAMAS.
- [20] Andrew Koster, Jordi Sabater-Mir, and Marco Schorlemmer. An interaction-oriented model of trust alignment. In *Proc. of the 13th Conference of the Spanish Association for Artificial Intelligence (CAEPIA'09)*, pages 655–664, Sevilla, Spain, 2009.
- [21] Andrew Koster, Jordi Sabater-Mir, and Marco Schorlemmer. Towards an inductive algorithm for learning trust alignment. In *Proceedings of the Student Session of the European Agent Summer School (SS-EASSS)*, pages 5–11. Universität Bayreuth, 2009.
- [22] Andrew Koster, Fernando Koch, Frank Dignum, and Liz Sonenberg. Augmenting bdi with relevance: Supporting agent-based, pervasive applications. In *Proceedings of Pervasive Mobile Interaction Devices (PERMID 2008)*, Sydney, Australia, 2008.

[Extended abstracts](#)

- [23] Andrew Koster, Tiago Primo, Fernando Koch, Allysson Oliveira, and Hyunkwon Chung. Towards an educator-centred digital teaching platform: the ground conditions for a data-driven approach. In *Proceedings of the Fifteenth15th IEEE International Conference on Advanced Learning Technologies (ICALT'15)*, page 178P, Hualien, Taiwan, 2015. IEEE.
- [24] Andrew Koster, Jordi Madrenas, Nardine Osman, Marco Schorlemmer, Jordi Sabater-Mir, Carles Sierra, Angela Fabregues, Dave de Jonge, Josep Puyol-Gruart, and Pere Garcia-Calvés. u-help: Supporting helpful communities with information technology (extended abstract). In *Twelfth International Conference on Autonomous Agents and Multiagent Systems (AAMAS'12)*, pages 1109–1110. IFAAMAS, Saint Paul, USA, 2013. IFAAMAS.
- [25] Andrew Koster, Jordi Sabater-Mir, and Marco Schorlemmer. Talking about trust in heterogeneous multi-agent systems. In *Proceedings of Twenty-Second International Joint Conference on Artificial Intelligence (IJCAI'11)*, pages 2820–2821, Barcelona, Spain, 2011. AAAI Press.
- [26] Andrew Koster, Jordi Sabater-Mir, and Marco Schorlemmer. Inductively generated trust alignments based on shared interactions (extended abstract). In *Ninth International Conference on Autonomous Agents and Multiagent Systems (AAMAS'10)*, pages 1571–1572, Toronto, Canada, 2010. IFAAMAS.

Patents

Pending **BR 10 2015 005579 0**, *Método para alocação de tarefas em cenários dinâmicos (Method for task allocation in dynamic scenarios)*.

Deposited: March 12, 2015

BR 10 2014 017940 2, *Método e sistema para relatar disponibilidade de vaga de estacionamento (System and method for reporting parking space availability)*.

Deposited: July 21, 2014

Grants

2010 **Spanish Ministry of Science and Education scholarship for mobility EDU/2933/2009 Modality B-2**, €4850.

Personal grant obtained for a 3 month academic visit to the Catholic University of Leuven

2010 **AAAI scholarship to attend AAMAS 2010**, €600.

Travel grant for attending AAMAS 2010

2005 **Trajectum scholarship for International Studies**, €500.

Personal grant obtained for a 6 month academic stay at the University of Melbourne

2004 **U-Fonds funding of the Dutch Aibo Team**, €1000.

Project grant obtained for attending the Robocup 4-legged League with the Dutch Aibo Team

2003 **U-Fonds funding of the BanzAI Team**, €500.

Project grant obtained for attending the Robocup Rescue Simulation League with the BanzAI Team

Other Scientific Activities

Reviewer for International Journals.

Reviewer for: Journal of Autonomous Agents and Multi-Agent Systems, ACM Transactions on Internet Technology, Journal of Applied Soft Computing, Computational Intelligence, Journal of Electronic Commerce Research, Computational and Mathematical Organization Theory, Electronic Commerce Research and Applications, Engineering Applications of Artificial Intelligence, International Journal of Information Technology & Decision Making, Knowledge and Information Systems, Journal of Research and Practice in Information Technology, Semantic Web Journal, IEEE Intelligent Systems, IEEE Transactions on Information Forensics and Security

Program Committee Member for International Conferences and Workshops.

AAMAS'15, MATES'15, PRIMA'15, ICAART'15, CARE'15, IBERAMIA'14, MATES'14, WESAAC'14, CARE'14, SMARTLIFE'14, AAMAS'13, CARE'13

Reviewer for International Conferences and Workshops.

Reviewer for AAMAS'14, BRACIS'14, BRACIS'13, SUMO'13, MATES'12, ECAI'12, AAMAS'12, EUMAS'11, PAAMS'11, IAT'11, MATES'11, Trust@AAMAS'11, EUMAS'10, SS-EASSS'10

2010 **Academic visit to the KU Leuven.**

3 month academic visit to the Catholic University of Leuven, under the guidance of Prof. Dr. Hendrik Blockeel

2005 **Research internship at the University of Melbourne.**

6 month internship at the University of Melbourne, under the guidance of Prof. Dr. Liz Sonenberg. Research into impromptu coordination using agent technologies on mobile devices

2003 – 2004 **Founding member of the Dutch Aibo Team.**

Participation in the Robocup 4-Legged League. Official website of the Utrecht participation: <http://aibo.cs.uu.nl>

Languages

English **Native fluency**
Dutch **Native fluency**
Spanish **Excellent**
Portugues **Advanced**
German **Intermediate**
French **Intermediate**
Catalan **Intermediate**

Computer skills

Expert programmer Java, PHP, Prolog, JASON
Programming experience Python, C++, C, JACK, 3APL, Haskell, Javascript

Referees

Prof. Dr. Ana L. C. Bazzan
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Dr. Jordi Sabater-Mir
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Dr. Fernando Koch
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Other interests

Reading Philosophy, natural sciences, science fiction
Sports Sailing, hiking, climbing