

Paolo Viappiani, Ph.D.

CONTACT INFORMATION	Department of Computer Science Aalborg University Institut for Datalogi Selma Lagerlöfs Vej 300 Aalborg East, 9220 DENMARK	<i>Mobile:</i> +45-21838713 <i>Fax:</i> +45 99409798 <i>E-mail:</i> paolo@cs.aau.dk http://www.cs.aau.dk/~paolo/
RESEARCH INTERESTS	Decision-theoretic artificial intelligence, machine learning, recommender systems, preference-based systems, interactive optimization and reinforcement learning.	
EDUCATION	École Polytechnique Fédérale de Lausanne (EPFL) , Lausanne, Switzerland Ph.D., Computer Science (Artificial Intelligence), September 2007 <ul style="list-style-type: none">• Thesis Topic: <i>Preference-based search with Suggestions</i>• Supervisor: Professor Boi Faltings Politecnico di Milano , Milan, Italy Laurea (M.Sc. equivalent), Computer Engineering, Spring 2002 <ul style="list-style-type: none">• Specialization: Software Engineering, Artificial Intelligence, Robotics• Thesis Topic: <i>Design and Implementation of Rational Agents</i>• Supervisor: Professor Marco Colombetti	
ACADEMIC APPOINTMENTS	Assistant Professor Department of Computer Science, Aalborg University (AAU) <ul style="list-style-type: none">• Course lecturing.• Student supervision at undergraduate, graduate and PhD levels.• Research on probabilistic graphical models, decision support systems and machine learning. Postdoctoral Researcher Department of Computer Science, University of Regina <ul style="list-style-type: none">• Short-term postdoctoral stint with research on topics related to interactive learning• Supervisors: Sandra Zilles and Howard J. Hamilton Postdoctoral Researcher Department of Computer Science, University of Toronto <ul style="list-style-type: none">• Research on decision-theoretic artificial intelligence, recommender systems and interactive optimization• Supervisor: Craig Boutilier	January 2011 to present September 2010 to December 2010 January 2008 to August 2010
COURSE TAUGHT & TUTORED	<ul style="list-style-type: none">• Web Engineering, Lecturer, Aalborg University Fall 2011• SW7 Internet Development, Aalborg University Fall 2011 Project-based course within the “Aalborg Problem-based Learning model”• DAT3 Models for Computer Science (Machine Intelligence), Aalborg University Fall 2011 Project-based course within the “Aalborg Problem-based Learning model”	

- **DAT2 Tools, Languages and Compilers**, Aalborg University **Spring 2011**
Project-based course within the “Aalborg Problem-based Learning model”
- **Data structures and abstractions**, University of Regina **Fall 2010**
Lecturer for part of the course
- **Artificial Intelligence**, Teaching Assistant, EPFL **Spring 2003-2006**

STUDENT
SUPERVISED

PhD Students

- 1 PhD student starting from August 2011

Master & Undergraduate Students

- 2 groups of 5-7 graduate students each on topics related to Web Engineering and/or Multi-agent systems (18 ECTS project; Fall 2011), AAU
- 2 groups of 5-7 undergraduate students each on topics related to Machine Learning (18 ECTS project; Fall 2011), AAU
- *CLUBS: A generic language for boardgames* (group of 7 undergraduate students; 18 ECTS project; Spring 2011), AAU
- *Design and Implementation of a Programming Language for Simulated Soccer* (group of 6 undergraduate students; 18 ECTS project; Spring 2011), AAU
- *SIMT: Single Instructions, Multiple Tanks* (4 undergraduate students; 18 ECTS project; Spring 2011), AAU
- *Language and Compiler Development: A Multiagent System Wargame* (group of 6 undergraduate students; 18 ECTS project; Spring 2011), AAU
- *The WAR Programming Language* (group of 4 undergraduate students; 18 ECTS project; Spring 2011), AAU
- Claudia Rappo, Wei Xue. *Example Critiquing for a Timetable Scheduling Application* (Bachelor project), EPFL, Spring 2007
- Sergi Alegre, *Multi user preference discovery*, (Master project), EPFL, 2006
- Lorenzo Keller, Dinu Niculescu. *Smart Mobile Timetable Application for the “Transports Publics de Lausanne”* (Bachelor project; Spring 2006)
- Jalil Mermoud, *Rapid Prototyping of Decision-support Applications* (Master project), EPFL, 2005
- Nils Raning, *Pareto Optimal Solutions in Configurable and Non-Configurable Catalogs* (Semester project), EPFL, 2005
- Andrej Lapajne, *Constraints Programming with Functors and Generics* (Semester project), EPFL, 2005

EVENT
ORGANIZATION

- Member of the Organization Committee of the **12th Scandinavian Conference on Artificial Intelligence (SCAI 2013)**

PROFESSIONAL
ACTIVITIES

Editorial Board Memberships

- Journal of Artificial Intelligence Research (JAIR) Appointed 2011-2014

Journal Reviewing

- Journal of Artificial Intelligence Research (2009, 2010)
- Journal of Mass Customization (2009)
- AI Magazine, Special Issue on Preferences (2008)

Conference Program Committees

- AAAI Conference on Artificial Intelligence (AAAI 2011)
- International Joint Conference on Artificial Intelligence (IJCAI 2011; Senior PC)
- Uncertain Reasoning (UR) track of the 24th Florida Artificial Intelligence Research Society Conference (FLAIRS)

- Canadian Conference on Artificial Intelligence 2011
- Graduate Student Symposium of Canadian Artificial Intelligence 2011
- European Conference on Artificial Intelligence (ECAI 2010)
- ECAI 5th Multidisciplinary workshop on Advances in Preference Handling (M-PREF10)
- ACM Conference on Electronic Commerce (EC 2009)
- ACM Intelligent User Interfaces (IUI 2009)
- Australian Joint Conference on Artificial Intelligence (AI 2008)
- European Conference on Artificial Intelligence (ECAI 2008)
- ECAI Workshop on Configuration Systems (2008)

Conference Reviewing

- Conference on Uncertainty in Artificial Intelligence (UAI 2010)
- International Conference on the Principles of Knowledge Representation and Reasoning (KR 2010)
- European Conference on Artificial Intelligence (ECAI 2008)
- ACM Conference on Intelligent User Interfaces, (IUI 2008)
- International Joint Conference on Artificial Intelligence (IJCAI 2007)
- International Joint Conference on Artificial Intelligence (IJCAI 2005)
- International Conference on Principles and Practice of Constraint Programming (CP 2004)

DISTINCTIONS

- Paper presented at AAAI 2011 in the “New Scientific and Technical Advances in Research” track (NECTAR) for making the “most significant AI results available to a broad audience”
- Spotlight presentation at NIPS 2010 (top 6%)
- AAAI 2010 oral **and** poster presentation for “exceptional papers”
- Nominee of the best PhD Thesis Award at EPFL (2007)

GRANTS

Research Projects

- *Open-ended preference elicitation* 2008 - 2009
Swiss National Science Foundation, Fellowship for Young Researchers
50,000 CAD (Principal Investigator)

Other grants

- *Det Obelske Familiefond*, travel support for AAAI 2011 (9000 DKK)
- *Det Obelske Familiefond*, travel support for IJCAI 2011 (4000 DKK)
- NIPS 2010 travel grant awarded by Google (400 USD)

INVITED SEMINARS

- University of Copenhagen, June 2011
- Aalborg University, Denmark, May 2010
- University of Regina, Canada, April 2010
- Ecole Centrale Paris, France, March 2010
- LAMSADE, Université Paris-Dauphine, France, March, 2010
- IBM Research, Watson Research Center, NY, USA, Fall 2007
- Ebay Research Labs, USA, August 2006
- SRI International, Menlo Park, CA, USA, August 2006
- Powerset, San Francisco, USA, Summer 2006
- LAMSADE, Université Paris-Dauphine, France, 2006

CONFERENCE AND
WORKSHOP
PRESENTATIONS

- AAAI Conference on Artificial Intelligence (AAAI 2011)
- IJCAI 11 International Workshop on Web Personalization and Recommender Systems (ITWP 11)
- Spotlight presentation at the Twenty-Fourth Annual Conference on Neural Information Processing Systems (NIPS 2010)
- AAAI Conference on Artificial Intelligence (AAAI 2010)
- ACM Recommender Systems conference (RecSys 2009)
- IJCAI 09 International Workshop on Web Personalization and Recommender Systems (ITWP 09)
- International Conference on Machine Learning (ICML 2009)
- ACM Recommender Systems conference (RecSys 2007)
- AAAI 2007 Workshop on Preference Handling in AI
- AAAI Conference on Artificial Intelligence (AAAI 2006)
- ECAI 2006 Multidisciplinary Workshop on Advances in Preference Handling
- Web Information Systems Engineering (WISE 2006)
- International Conference on Web Engineering (ICWE 2006)
- International Conference on Flexible Query Answering Systems (FQAS 2006)
- AAAI Symposium 2005 on “Mixed-initiative Assistants”
- IJCAI Workshop on Preference Handling 2005
- ACM Intelligent User Interfaces (IUI 2004)
- AAAI Symposium 2002 on “Personal Agents”

MEMBERSHIP

- Association for the Advancement of Artificial Intelligence (AAAI)
- Association for Computing Machinery (ACM)
- Italian Association for Artificial Intelligence (AI*IA)

PEDAGOGIC
QUALIFICATIONS

- Pedagogic program for Assistant Professors, Aalborg University 2011-2012
Attendance of pedagogic workshops, mentoring, feedback from observations of lectures and supervision.
Pedagogic supervisors: Jiri Srba (Associate Professor in Computer Science) and Ole Røkkjær (Head of the Department of Learning)
- Basic Pedagogy for University Lecturers, Aalborg University March 2011
Intensive program (two days)

REFEREED
JOURNAL
PUBLICATIONS

- Paolo Viappiani, Pearl Pu, and Boi Faltings. Preference-based search with adaptive recommendations. *AI Communications*, 21(2-3):155–175, April 2008.
- Bart Peintner, Paolo Viappiani, and Neil Yorke-Smith. Preferences in interactive systems: Technical challenges and case studies. *AI Magazine*, 29(4):13–24, Winter 2008.
- Paolo Viappiani, Boi Faltings, and Pearl Pu. Preference-based search using example-critiquing with suggestions. *Journal of Artificial Intelligence Research (JAIR)*, 27:465–503, 2006.

BOOK
CHAPTERS

- Pearl Pu, Boi Faltings, Li Chen, Jiyong Zhang, and Paolo Viappiani. Usability guidelines for product recommenders based on example critiquing research. In P.B. Kantor, F. Ricci, Rokach L., and Shapira B., editors, *Recommender Systems Handbook*, chapter 16, pages 511–545. Springer, 2011.

REFEREED
CONFERENCE
PUBLICATIONS

- Paolo Viappiani, Sandra Zilles, Howard J. Hamilton, and Craig Boutilier. Learning complex concepts using crowdsourcing: A Bayesian approach. In *Proceedings of the Second Conference on Algorithmic Decision Theory (ADT-11)*, Piscataway, NJ, USA, 2011.

- Paolo Viappiani and Craig Boutilier. Recommendation sets and choice queries: There is no exploration/exploitation tradeoff! In *Proceedings of the Twenty-fifth AAAI Conference on Artificial Intelligence (AAAI-11), NECTAR track*, San Francisco, CA, USA, 2011.
- Paolo Viappiani and Craig Boutilier. Optimal Bayesian recommendation sets and myopically optimal choice query sets. In *Advances in Neural Information Processing Systems 23 (NIPS 2010)*. MIT press, pp.2352–2360, Vancouver, CA, 2010.
- Craig Boutilier, Kevin Regan, and Paolo Viappiani. Simultaneous elicitation of preference features and utility. In *Proceedings of the Twenty-fourth AAAI Conference on Artificial Intelligence (AAAI-10)*, pages 1160–1167, Atlanta, GA, USA, July 2010. AAAI press.
- Craig Boutilier, Kevin Regan, and Paolo Viappiani. Online feature elicitation in interactive optimization. In *Proceedings of the 26th Annual International Conference on Machine Learning, ICML 2009, Montreal, Quebec, Canada, June 14-18, 2009*, pages 73–81, 2009.
- Craig Boutilier, Kevin Regan, and Paolo Viappiani. Preference elicitation with subjective features. In *Proceedings of the 2009 ACM Conference on Recommender Systems, RecSys 2009, New York City, NY, USA, October 22-25, 2009*, 2009.
- Paolo Viappiani and Craig Boutilier. Regret-based optimal recommendation sets in conversational recommender systems. In *Proceedings of the 2009 ACM Conference on Recommender Systems, RecSys 2009, New York City, NY, USA, October 22-25, 2009*, 2009.
- Paolo Viappiani, Pearl Pu, and Boi Faltings. Conversational recommenders with adaptive suggestions. In *Proceedings of the 2007 ACM Conference on Recommender Systems, RecSys 2007, Minneapolis, MN, USA, October 19-20, 2007*, pages 89–96, 2007.
- Paolo Viappiani and Boi Faltings. Design and implementation of preference-based search. In *Web Information Systems - WISE 2006, 7th International Conference on Web Information Systems Engineering, Wuhan, China, October 23-26, 2006, Proceedings*, pages 72–83, 2006.
- Paolo Viappiani and Boi Faltings. Implementing example-based tools for preference-based search. In *Proceedings of the 6th International Conference on Web Engineering, ICWE 2006, Palo Alto, California, USA, July 11-14, 2006*, pages 89–90, 2006.
- Paolo Viappiani, Boi Faltings, and Pearl Pu. Evaluating preference-based search tools: a tale of two approaches. In *Proceedings of the Twenty-first National Conference on Artificial Intelligence (AAAI-06)*, pages 205–211, Boston, MA, USA, July 2006. AAAI press.
- Paolo Viappiani, Boi Faltings, and Pearl Pu. The lookahead principle for preference elicitation: Experimental results. In *Flexible Query Answering Systems, 7th International Conference, FQAS 2006, Milan, Italy, June 7-10, 2006, Proceedings*, pages 378–389, 2006.
- Pearl Pu, Paolo Viappiani, and Boi Faltings. Increasing user decision accuracy using suggestions. In *Proceedings of the 2006 Conference on Human Factors in Computing Systems, CHI 2006, Montreal*, pages 121–130, 2006.
- Boi Faltings, Pearl Pu, Marc Torrens, and Paolo Viappiani. Designing example-critiquing interaction. In *Proceedings of the 2004 International Conference on Intelligent User Interfaces (IUI-04), January 13-16, 2004, Funchal, Madeira, Portugal*, pages 22–29, 2004.

- PEER-REVIEWED PAPERS IN INTERNATIONAL WORKSHOPS OR SYMPOSIA
- Paolo Viappiani, Sandra Zilles, Howard J. Hamilton, and Craig Boutilier. A Bayesian approach to crowdsourcing. In *IJCAI Workshop on Intelligent Techniques for Web Personalization & Recommender Systems (ITWP'11)*, Barcelona, Spain, 2011.
- Paolo Viappiani, Sandra Zilles, Howard Hamilton, and Craig Boutilier. A Bayesian Concept Learning Approach to Crowdsourcing. *AAAI Workshop on Interactive Decision Theory and Game Theory (IDTGT'2011)*, AAAI Press, 2011
- Paolo Viappiani and Craig Boutilier Monte Carlo methods for Utility Elicitation and Prior Acquisition. *NIPS2010 Workshop on Monte Carlo Methods for Modern Applications*, Whistler, B.C., Canada, 2010
- Paolo Viappiani and Craig Boutilier. Optimal set recommendations based on regret. In *IJCAI Workshop on Intelligent Techniques for Web Personalization & Recommender Systems (ITWP'09)*, 2009.
- Paolo Viappiani and Boi Faltings. Preference-based search for configurable catalogs. In *AAAI 2007 Workshop on Configuration*, Vancouver, July 2007.
- Paolo Viappiani and Boi Faltings. Adaptive Suggestions for Example based Tools. *ECAI 2006 Multidisciplinary Workshop on Advances in Preference Handling*, Riva del Garda, Italy, August, 2006, pp. 134-140.
- Paolo Viappiani, Boi Faltings, Vincent Schickel-Zuber, and Pearl Pu. Stimulating preference expression using suggestions. In *IJCAI-05 Multidisciplinary Workshop on Advances in Preference*, pages 186–191, 2005.
- Paolo Viappiani, B. Faltings, V. Schickel-Zuber and P. Pu. Stimulating Preference Expression Using Suggestions. *Mixed-Initiative Problem-Solving Assistants. AAAI Fall Symposium Serie*, November, 2005, pp. 128-133.
- Paolo Viappiani, Pearl Pu, and Boi Faltings. Acquiring user preferences for personal agents. In the *AAAI 2002 Fall Symposium*, pages 53–59, Cape Code, MA, 2002. AAAI, AAAI Press.
- JOURNAL ARTICLES IN PREPARATION
- Paolo Viappiani and Craig Boutilier. Optimal Sets and Optimal Queries. To be submitted to the *Journal of ACM*.
- Pearl Pu, Li Chen, J. Zhang, Boi Faltings and Paolo Viappiani. Example-critiquing: a mixed-initiative paradigm for preference elicitation. To be submitted to *ACM Transactions on Interactive Intelligent Systems (TIIS)*.
- THESES
- Paolo Viappiani. *Preference-based search with suggestions*. Epfl phd. thesis no. 3876, Ecole Polytechnique Federale de Lausanne (EPFL), Lausanne (Switzerland), 2007.
- Paolo Viappiani. *Design and Implementation of Rational Agents*. Master's thesis (In Italian), Politecnico di Milano, Milan, Italy, 2002.
- TECHNICAL REPORTS
- J. Zhang, Pearl Pu and Paolo Viappiani. A Study of User's Online Decision Making Behavior. Technical Report, École Polytechnique Fédérale de Lausanne (EPFL), Lausanne, Switzerland, December, 2006.
- Paolo Viappiani and Boi Faltings. Design and Implementation of Preference-based Search. Technical Report, École Polytechnique Fédérale de Lausanne (EPFL), Lausanne, Switzerland, May, 2006.
- J. Zhang, Pearl Pu and Paolo Viappiani. Supporting Online Decision Making with Anchoring Examples. Technical Report, École Polytechnique Fédérale de Lausanne (EPFL), Lausanne, Switzerland, 2006.

REFERENCES
AVAILABLE TO
CONTACT

Craig Boutilier (e-mail: cebly@cs.toronto.edu; phone: +1-(416)-9465714)

- Professor, Department of Computer Science, University of Toronto
- ◇ 6 King's College Road Toronto, Ontario, CANADA M5S 3H5
- ★ *Dr. Craig Boutilier was my postdoc supervisor.*

Boi Faltings (e-mail: boi.faltings@epfl.ch; phone: +41 21 693-2738/5)

- Professor, Director of the AI Laboratory Computer and Communication Sciences
École Polytechnique Fédérale de Lausanne (EPFL)
- ◇ EPFL I&C, Station 14 IN (Ecublens), CH-1015 Lausanne (Switzerland)
- ★ *Dr. Faltings was my PhD advisor.*

Jerome Lang (e-mail: lang@irit.fr; phone: +33 5 61 55 82 97)

- CNRS Research Director, LAMSADE CNRS - Université Paris Dauphine
- ◇ Bureau P645 Place du Marechal de Lattre de Tassigny 75775 Paris Cedex 16 (France)
- ★ *Dr. Jerome Lang was a member of my doctoral committee.*

Pearl Pu (e-mail: pearl.pu@epfl.ch; phone: +41 21 693 6081)

- Professor, Director of the Human Computer Interaction Group Computer Science
École Polytechnique Fédérale de Lausanne (EPFL)
- ◇ EPFL - I&C Bldg BC, Room 207 Station 14
- ★ *I collaborated with Dr. Pearl Pu on several papers, mostly during my PhD studies.*

Sandra Zilles (e-mail: zilles@cs.uregina.ca; phone: +1 (306) 337-3250)

- Assistant Professor, Computer Science
University of Regina
- ◇ Regina, Saskatchewan, Canada S4S 0A2
- ★ *I collaborated with Dr. Zilles during my postdoctoral stint at the University of Regina.*

Howard J. Hamilton (e-mail: hamilton@cs.uregina.ca; phone: +1-614-292-5835)

- Professor, Computer Science
University of Regina
- ◇ Regina, Saskatchewan, Canada S4S 0A2
- ★ *I collaborated with Dr. Zilles during my postdoctoral stint at the University of Regina.*