

Curriculum Vitæ

Name: Gerardo Ignacio Simari
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A. Research Interests:

- Reasoning under Uncertainty
- Logic Programming, Probabilistic Logic Programming
- Agents and Multi-agent Systems
- Game Theory and Decision Theory
- Inconsistency Management in Databases

B. Studies:

- PhD Student in Computer Science since August 2005 at University of Maryland College Park, under the supervision of Dr. V.S. Subrahmanian (Expected June 2010).
- Master of Science, year 2007, University of Maryland College Park.
- Master in Computer Science, year 2004.

Thesis Title: "Rational Decision Making in Autonomous Agents"

Department of Computer Science and Engineering
Universidad Nacional del Sur, Bahía Blanca, Argentina.

Advisors: Dr. Simon D. Parsons (Brooklyn College, City University of New York) and
Dr. Marcelo A. Falappa (Universidad Nacional del Sur)

Referees: Dr. Milind Tambe (University of Southern California, USA) and
Dr. Martijn Schut (Vrije Universiteit, Netherlands).

- *Licenciado* in Computer Science, year 2002.

GPA: 10.00 / 10.00 points

Thesis title: Architectures for Intelligent Agents

Department of Computer Science and Engineering
Universidad Nacional del Sur, Bahía Blanca, Argentina.

The Licenciatura is a five year program comprising 25 courses (all Computer Science and Mathematics, two are elective), an English sufficiency exam, and a thesis.

C. Selected Peer-reviewed Publications

1. Gerardo I. Simari, Maria Vanina Martinez, Amy L. Sliva, and V.S. Subrahmanian: "Focused Most Probable World Computations in Probabilistic Logic Programs", *Annals of Mathematics and Artificial Intelligence*, *under review*.
2. Paulo Shakarian, Austin Parker, Gerardo I. Simari, and V.S. Subrahmanian: "Annotated Probabilistic Temporal Logic". *Transactions on Computational Logic*, *under review*.
3. Amy L. Sliva, V.S. Subrahmanian, Maria Vanina Martinez, and Gerardo I. Simari: "CAPE: Automatically Predicting Changes in Group Behavior", in *Mathematical Methods in Counterterrorism*, N. Memon, J. D. Farley, D. L. Hicks, and T. Rosenorn, Eds. Springer-Verlag, 2009, pp. 247—263.

4. Matthias Broecheler, Gerardo I. Simari, and V.S. Subrahmanian: "Using Histograms to Better Answer Queries to Probabilistic Logic Programs", Proceedings of the 25th International Conference on Logic Programming (ICLP 2009), Pasadena, California, July 14-17, 2009. *Selected by the Program Committee as the Best Student Paper.*
5. Avigdor Gal, Maria Vanina Martinez, Gerardo I. Simari, and V.S. Subrahmanian: "Aggregate Query Answering under Uncertain Schema Mappings", Proceedings of the 25th International Conference on Data Engineering (ICDE 2009), Shanghai, China, March 29 – April 4, 2009.
6. Gerardo I. Simari, Maria Vanina Martinez, Amy Sliva, and V.S. Subrahmanian: "Scaling Most Probable World Computations in Probabilistic Logic programs", Proceedings of the Second International Conference on Scalable Uncertainty Management (SUM 2008), pp. 372-385, October 2008. Lecture Notes in Artificial Intelligence, vol. 5291, Springer Berlin / Heidelberg.
7. Gerardo I. Simari, Matthias Broecheler, Sarit Kraus, and V.S. Subrahmanian: "Promises Kept, Promises Broken: An Axiomatic and Quantitative Treatment of Fulfillment", Proceedings of the 11th International Conference on Principles of Knowledge Representation and Reasoning, Sydney, Australia, September 16-19, 2008.
8. Maria Vanina Martinez, Francesco Parisi, Andrea Pugliese, Gerardo I. Simari, and V.S. Subrahmanian: "Inconsistency Management Policies", Proceedings of the 11th International Conference on Principles of Knowledge Representation and Reasoning, Sydney, Australia, September 16-19, 2008.
9. Maria Vanina Martinez, Gerardo I. Simari, Amy Sliva, and V.S. Subrahmanian: "CONVEX: Similarity-based Algorithms for Forecasting Group Behaviors". IEEE Intelligent Systems, vol. 23, no. 4, pp. 51-57, Jul/Aug 2008.
10. Vanina Martinez, Gerardo Simari, Amy Sliva, and V.S. Subrahmanian: "The SOMA Terror Organization Portal (STOP): Social Network and Analytic Tools for the Real-time Analysis of Terror Groups", Proceedings of the First International Workshop on Social Computing, Behavioral Modeling, and Prediction, Phoenix, AZ, USA, April 1-2, 2008.
11. Samir Khuller, Maria Vanina Martinez, Dana Nau, Gerardo I. Simari, Amy Sliva, and V.S. Subrahmanian: "Computing Most Probable Worlds of Action Probabilistic Logic Programs: Scalable Estimation for $10^{30,000}$ Worlds", Annals of Mathematics and Artificial Intelligence, vol. 51, no. 2-4, pp. 295-331, December 2007.
12. Samir Khuller, Maria Vanina Martinez, Dana Nau, Gerardo I. Simari, Amy Sliva, and V.S. Subrahmanian: "Finding Most Probable Worlds of Probabilistic Logic programs", Proceedings of the First International Conference on Scalable Uncertainty Management (SUM 2007), pp. 45-59, October 2007. Lecture Notes in Artificial Intelligence, vol. 4772, Springer Berlin / Heidelberg, ISBN: 978-3-540-75407-7.
13. Maria Vanina Martinez, Andrea Pugliese, Gerardo I. Simari, V.S. Subrahmanian, and Henri Prade: "How Dirty is your Relational Database? An Axiomatic Approach", Proceedings of the Ninth European Conference on Symbolic and Quantitative Approaches to Reasoning with Uncertainty (ECSQARU 2007), pp. 103-114, October-November, 2007. Lecture Notes in Computer Science, vol. 4724, Springer Berlin / Heidelberg, ISBN: 978-3-540-75255-4.
14. Amy Sliva, Maria Vanina Martinez, Gerardo I. Simari, and V.S. Subrahmanian: "SOMA Models of the Behaviors of Stakeholders in the Afghan Drug Economy: A Preliminary Report", Proceedings of the First International Conference on Computational Cultural Dynamics (ICCCD 2007), August 27-28, 2007, AAAI Press.
15. V. S. Subrahmanian, Massimiliano Albanese, Maria Vanina Martinez, Dana Nau, Diego Recupero, Gerardo I. Simari, Amy Sliva, Octavian Udrea, and Jonathan Wilkenfeld: "CARA: A Cultural Adversarial Reasoning Architecture", IEEE Intelligent Systems, vol. 22, no. 2, pp 12-16, Mar/Apr 2007.
16. Gerardo I. Simari and Simon D. Parsons: "On the Relationship between MDPs and the BDI Architecture", Proceedings of the Fifth International Joint Conference on Agents and Multiagent Systems (AAMAS 2006). Selected by the program committee for oral presentation.
17. Gerardo I. Simari, Amy Sliva, Dana Nau, and V.S. Subrahmanian: "A Stochastic Language for Modelling Opponent Agents", Proceedings of the Fifth International Joint Conference on Agents and Multiagent Systems (AAMAS 2006).
18. Gerardo I. Simari and Simon. D. Parsons: "On Approximating the Best Decision for an Autonomous Agent". Proceedings of the VI Workshop on Game Theoretic and Decision Theoretic Agents (GTDT 2004), pages 91-100. University of Columbia, New York.

D. Research Positions

- **Graduate Research Assistant** in the University of Maryland Institute for Advanced Computer Studies (UMIACS) for Dr. V.S. Subrahmanian. August 2005 – Present.
- **Member of the Laboratory for Computational Cultural Dynamics (LCCD)** in the University of Maryland Institute for Advanced Computer Studies (UMIACS). August 2005 – Present.
- **Member of the Artificial Intelligence Research and Development Laboratory (LIDIA)** in the Department of Computer Science and Engineering, Universidad Nacional del Sur (Bahia Blanca, Argentina). August 2002 – August 2005.

E. Teaching Positions

Past Teaching Positions:

- **Instructor** for the “Problem Analysis and Comprehension” preparation course for freshmen. Department of Computer Science and Engineering, Universidad Nacional del Sur, Bahía Blanca, Argentina (2005).
- **Head Teaching Assistant** in the Department of Computer Science and Engineering, Universidad Nacional del Sur, Bahía Blanca, Argentina, for the following courses:
 - Fundamentals of Computer Science (2005).
 - Elements of Databases (2003 and 2004).
 - Database Theory and Design (2004).
- **Graduate Teaching Assistant** in the Department of Computer Science and Engineering, Universidad Nacional del Sur, Bahía Blanca, Argentina, for the following courses:
 - Algorithms and Complexity (2003).
 - Fundamentals of Computer Science (2003).
 - Database Theory and Design, and Elements of Databases (2002).
 - Object Oriented Programming (2002).
- **Undergraduate Teaching Assistant** in the Department of Computer Science and Engineering, Universidad Nacional del Sur, Bahía Blanca, Argentina, for the following courses:
 - Algorithms and Complexity (2002).
 - Database Theory and Design (2001).
 - Fundamentals of Computer Science (2001)
 - Problem Solving and Algorithms (2000).
 - Elements of Programming (2000).

F. Scholarships

- Full tuition remission for the PhD in Computer Science program at the Department of Computer Science, University of Maryland College Park, awarded by this institution, Fall 2005 - Present.
- Block Fellowship in recognition of academic excellence and contributions to the field of Computer Science, awarded by the Department of Computer Science, University of Maryland College Park, for the 2005-2006 and 2006-2007 academic years.
- Doctoral research scholarship, awarded by “Consejo Nacional de Investigaciones Científicas y Tecnológicas (CONICET)” of Argentina’s National Government, from April to August 2005, before changing to the University of Maryland College Park PhD in Computer Science program.
- Initial research scholarship, awarded by “Comisión de Investigaciones Científicas (CIC)” of the Government of the Province of Buenos Aires, for the year 2003 and 2004.

- Undergraduate Scholarship awarded by the “Universidad Nacional del Sur” university, for the year 2001 and 2002.

G. Awards

- Best Student Paper at the 25th International Conference on Logic Programming (ICLP 2009) for the paper “Using Histograms to Better Answer Queries to Probabilistic Logic Programs”, by Matthias Broecheler, Gerardo I. Simari, and V.S. Subrahmanian.
- “25 de mayo” award to the best grade point average during 2002, awarded by the “Universidad Nacional del Sur” university.
- “Gobierno de la Provincia de Buenos Aires” award to the best general grade point average of the “Universidad Nacional del Sur” university, awarded by the Government of the Province of Buenos Aires in the city of La Plata in May of 2003.
- Second Place in the RoboCup 2004 ELeague Competition held in Lisbon, Portugal. Team leader for the “MateBots” team, Universidad Nacional del Sur.

H. Graduate Courses

1. **Empirical Research Methods for Computer Science** – Given by Dr. Adam Porter, in the Department of Computer Science, University of Maryland College Park, Fall 2007. Grade: A
2. **Advanced Topics in Information Processing: Cognitive Science and Artificial Intelligence** – Given by Dr. Don Perlis, in the Department of Computer Science, University of Maryland College Park, Fall 2006. Grade: A
3. **Advanced Topics in Information Processing: Sensors and Mobile Data Tracking** – Given by Dr. Nick Roussopoulos in the Department of Computer Science, University of Maryland College Park, Fall 2006. Grade: A-
4. **Program Analysis and Understanding** – Given by Dr. Jeff Foster, in the Department of Computer Science, University of Maryland College Park, Spring 2006. Grade: A
5. **Advanced Topics in Theory of Computing: Computers and Games** – Given by Dr. Clyde Kruskal, in the Department of Computer Science, University of Maryland College Park, Spring 2006. Grade: A
6. **Planning in Artificial Intelligence** – Given by Dr. Dana Nau, in the Department of Computer Science, University of Maryland College Park, Fall 2005. Grade: A
7. **Computational Geometry** – Given by Dr. David Mount, in the Department of Computer Science, University of Maryland College Park, Fall 2005. Grade: B
8. **Complexity Theory** – Given by Dr. Jonathan Katz, in the Department of Computer Science, University of Maryland College Park, Fall 2005. Grade: B
9. **Programming with Answer Sets** – Given by Dr. Michael Gelfond, in the Department of Computer Science and Engineering of the “Universidad Nacional del Sur” university, year 2004. Grade: 10/10.
10. **Game Theory and Applications** – Given by Dr. Fernando Tohmé, in the Department of Computer Science and Engineering of the “Universidad Nacional del Sur” university, year 2003. Grade: 10/10.
11. **Advanced Topics in Knowledge Representation and Reasoning** – Given by Dr. Alejandro J. García and Dr. Marcelo A. Falappa, in the Department of Computer Science and Engineering of the “Universidad Nacional del Sur” university, year 2003. Grade: 10/10.
12. **Distributed Systems: Paradigms and Applications** – Given by M.Sc. Eng. Jorge R. Ardenghi, in the Department of Computer Science and Engineering of the “Universidad Nacional del Sur” university, year 2003. Grade: 10/10.
13. **Cognitive Robotics: Perception, Reasoning, and Action** – Given by Dr. Alejandro J. García, in the Department of Computer Science and Engineering of the “Universidad Nacional del Sur” university, year 2003. Grade: 10/10.

14. **Advanced Topics in Computer Science** – Given by Dr. Alejandro J. García, in the Department of Computer Science and Engineering of the “Universidad Nacional del Sur” university, year 2002. Grade: 10/10.
15. **Cognitive Robotics and Applications** – Given by Dr. Alejandro J. García, in the Department of Computer Science and Engineering of the “Universidad Nacional del Sur” university, year 2002. Grade: 10/10.
16. **Methodology in Science and Research** – Given by Dr. Juan Manuel Torres and Dr. Gustavo Bodanza, in the Department of Humanities of the “Universidad Nacional del Sur” university, year 2002. Grade: 10/10.

I. Other Courses

- Attendance to “America’s School on Agents and Multiagent Systems”, held in New York prior to and in conjunction with the 3rd International Joint Conference on Autonomous Agents and Multiagent Systems. July 17 to 20, 2004.
- Attendance to the seminar “Security in Networks and Internet”, given between July 1 and 10, 2002 (duration: 12 hours), organized by the Student Branch of the IEEE, Department of Electric Engineering, Universidad Nacional del Sur.
- Attendance to the course “Introduction to Generic Functional Programming” given by Dr. Alberto Pardo (duration: 15 hours), in the frame of the 16th School of Information Sciences, organized by the Department of Computer Science of the Faculty of Exact and Natural Sciences of the “Universidad de Buenos Aires” university, between July 22 and 27, 2002.
- Attendance to the course “Analysis of the Complexity of Algorithms” given by Dr. Alfredo Viola (duration: 15 hours), in the frame of the 16th School of Information Sciences, organized by the Department of Computer Science of the Faculty of Exact and Natural Sciences of the “Universidad de Buenos Aires” university, between July 22 and 27, 2002.
- Attendance to the seminar “Fractal Compression of Images”, given between July 5 and 7, 1999 (duration: 6 hours), organized by the Student Branch of the IEEE, Department of Electric Engineering, Universidad Nacional del Sur.
- Attendance to the seminar “Introduction to Fuzzy Logic” given between May 20 and 21, 1999 (duration: 4 hours), organized by the student branch of the IEEE, Department of Electric Engineering, Universidad Nacional del Sur.

J. Peer-reviewed Publications in Local Conferences and Workshops

1. Gerardo I. Simari, Gabriel R. Filocamo, and Diego R. García: “A General Approach to the Implementation of Action Theories”, Proceedings of the V Workshop of Researchers in Computer Science (WICC 2003), pages 541-545. Universidad del Centro de la Provincia de Buenos Aires, Tandil, Argentina.
2. Marcelo A. Falappa and Gerardo I. Simari: “Non Prioritized Reasoning in Intelligent Agents”, Proceedings of the V Workshop of Researchers in Computer Science (WICC 2003), pages 237-240. Universidad del Centro de la Provincia de Buenos Aires, Tandil, Argentina.
3. Gerardo I. Simari, Gabriel R. Filocamo, and Diego R. García: “The Monkey and Bananas Problem Revisited: A Situation Calculus Approach”, Proceedings of the IX Argentine Conference on Computer Science (CACIC 2003), La Plata, Buenos Aires, Argentina. Pages 752-764.
4. Simon D. Parsons and Gerardo I. Simari: “On the Problem of Comparing Two Models for Rational Decision Making in Autonomous Agents”, Proceedings of the IX Argentine Conference on Computer Science (CACIC 2003), La Plata, Buenos Aires, Argentina. Pages 705-716.
5. Gerardo I. Simari and Marcelo A. Falappa: “Belief Dynamics and Explanations in AnsProlog*”, Proceedings of the IX Argentine Conference on Computer Science (CACIC 2003), La Plata, Buenos Aires, Argentina. Pages 589-600.
6. Gerardo I. Simari and Marcelo A. Falappa: “Non Prioritized Belief Revision with AnsProlog*”. Proceedings of the VI Workshop of Researchers in Computer Science (WICC 2004), pages 341-345. Universidad Nacional del Comahue, Neuquén, Argentina.

7. Gerardo I. Simari and Simon. D. Parsons: "Rational Decision Making in Autonomous Agents". Proceedings of the VI Workshop of Researchers in Computer Science (WICC 2004), pages 355-359. Universidad Nacional del Comahue, Neuquén, Argentina.
8. Alejandro J. García, Gerardo I. Simari, Telma Delladio, Diego R. García, Mariano Tucac, Nicolás D. Rotstein, Fernando A. Martín, and Sebastián Gottifredi: "Cognitive Robotics in a Soccer Game Domain: a Proposal for the E-League Competition". Proceedings of the VI Workshop of Researchers in Computer Science (WICC 2004), pages 289-293. Universidad Nacional del Comahue, Neuquén, Argentina.
9. Gerardo I. Simari: "La racionalidad desde el punto de vista de la Inteligencia Artificial". "La investigación joven en la Argentina de hoy": Proceedings of the I Workshop of Young Researchers in Human Sciences, Universidad Nacional del Sur, Bahía Blanca, Argentina. Pages 715-717 (in Spanish).
10. Gerardo I. Simari and Marcelo A. Falappa: "Non Prioritized Answer Set Revision". Proceedings of the X Argentine Conference on Computer Science (CACIC 2004), La Matanza, Buenos Aires, Argentina. Pages 1811-1822. ISBN: 987-9495-58-6.
11. Alejandro J. García, Gerardo I. Simari, and Telma Delladio: "Designing an Agent System for Controlling a Robotic Soccer Team". Proceedings of the X Argentine Conference on Computer Science (CACIC 2004), La Matanza, Buenos Aires, Argentina. Pages 1646-1656. ISBN: 987-9495-58-6.

K. Other Relevant Information

- Participated in the Doctoral Consortium held in conjunction with the 25th International Conference on Logic Programming (ICLP 2009), Pasadena, California, July 14-17, 2009.
- Participated in the Doctoral Consortium held in conjunction with the 11th International Conference on Principles of Knowledge Representation and Reasoning (KR 2008), Sydney, Australia, September 16-19, 2008.

Mentor: Dr. Carles Sierra (Artificial Intelligence Research Institute, Barcelona, Spain).

- Served as a member of the Program Committee for the Second International Conference on Computational Cultural Dynamics (ICCCD 2008).
- Served as reviewer for:
 - Second International Conference on Computational Cultural Dynamics (ICCCD 2008)
 - Transactions on Knowledge and Data Engineering: Multiple occasions.
 - Annals of Mathematics and Artificial Intelligence: September 2007
 - First International Conference on Scalable Uncertainty Management (SUM 2007)
 - Journal of Autonomous Agents and Multi-Agent Systems: May 2005
- Visits to Brooklyn College (CUNY) and Columbia University, New York, to carry out research with Dr. Simon D. Parsons on the following occasions:
 - a) January and February of 2003 (30 days)
 - b) January and February of 2004 (30 days)
 - c) July of 2004 (20 days)

The Agents Lab of the Department of Computer Science, Columbia University, directed by Dr. Elizabeth Sklar was also visited on each occasion.

- Team leader for the "MateBots" team, which participated in the RoboCup 2004 ELeague Competition held in Lisbon, Portugal, from June 27 to July 5, 2004. The team is part of the Cognitive Robotics Group of the Artificial Intelligence Research and Development Laboratory (LIDIA), and is composed by: Dr. Alejandro J. García, Lic. Telma Delladio, Lic. Diego R. García, Lic. Gerardo I. Simari, and the students Mariano Tucac (Computer Engineering), Sebastián Gottifredi (Computer Science), Nicolás D. Rotstein (Computer Engineering), and Fernando Martín (Computer Engineering).
- Languages:
 - Spanish: Native language.
 - English:

- Test of English as a Foreign Language (TOEFL).
Score: 300/300, taken in November 2005.
- Certificate of Advanced English, University of Cambridge, Grade "A".
- Seminar (English) "Writing in the Academic World". Department of Humanities, Universidad Nacional del Sur, 2002. Duration: 20 hours (passed).
- Modern Greek (Levels I, II, IIIa, and IIIb completed). Professor Mario Ritacco, Department of Humanities Universidad Nacional del Sur. Attendance.

College Park, Maryland, USA, September 2009