Luis Gustavo Nardin

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National College of Ireland
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ACADEMIC EMPLOYMENT

2019–current	**Lecturer**	School of Computing National College of Ireland, Ireland
2017–2019	**Faculty**	Institute of Informatics Brandenburg University of Technology, Germany
2015–2017	**Postdoctoral**	Center for Modeling Complex Interactions University of Idaho, USA
2012–2015	**Research Fellow**	Laboratory of Agent-Based Social Simulation Institute of Cognitive Science and Technologies, Italy
2010–2011	**Research Fellow**	Center for Innovation in Logistics and Port Infrastructure University of São Paulo, Brazil

INDUSTRY EMPLOYMENT

2006–2010	System Architect	Computer Associates São Paulo – Brazil
2003–2006	System Engineer	Murah Technologies São Paulo – Brazil
1997–2003	Support Engineer	Sonda do Brasil Campinas – Brazil
1995–1995	Programmer	Brain Informática Limeira – Brazil

EDUCATION

2015 **PhD, Computer Engineering**
University of São Paulo, Brazil
Thesis: An Adaptive Sanctioning Enforcement Model for Normative Multiagent Systems
Supervisor: Jaime S. Sichman

2009 **MsC, Computer Engineering**
University of São Paulo, Brazil
Thesis: Uma Arquitetura de Apoio à Interoperabilidade de Modelos de Reputação de Agentes
[An Architecture to Support Agent Reputation Models Interoperability]
Supervisor: Jaime S. Sichman

2005 **Specialization, Software Engineering**
University of São Paulo, Brazil
Monograph: Uso de Sistemas Multiagentes em Sistemas Sensíveis ao Contexto
[Use of Multiagent Systems in Context-Aware Systems]
Supervisor: Jaime S. Sichman

2003 **Computer Engineering**
University São Francisco, Brazil

PUBLICATIONS

Journal

1. Devezer, B., **Nardin, L. G.**, Baumgaertner, B., & Buzbas, E. O. (2019). Scientific discovery in a model-centric framework: Reproducibility, innovation, and epistemic diversity. *PLOS ONE*, 14(5), e0216125.
2. Székely, Á., **Nardin, L. G.**, & Andrighetto, G. (2018). Countering protection rackets using legal and social approaches: An agent-based test. *Complexity*, 2018, 1–16.
3. Realpe-Gómez, J., Vilone, D., Andrighetto, G., **Nardin, L. G.**, & Montoya, J. A. (2018). Learning dynamics and norm psychology supports human cooperation in a large-scale prisoner's dilemma on networks. *Games*, 90(4), 90-104.
4. Realpe-Gómez, J., Andrighetto, G., **Nardin, L. G.**, & Montoya, J. A. (2018). Balancing selfishness and norm conformity can explain human behavior in large-scale prisoner's dilemma games and can poise human groups near criticality. *Physical Review E*, 97, 042321.
5. **Nardin, L. G.**, Székely, Á., & Andrighetto, G. (2017). GLODERS-S: A simulator for agent-based models of criminal organisations. *Trends in Organized Crimes*. 20(1–2), 85–99.
6. **Nardin, L. G.**, Miller, C. R., Ridenhour, B. J., Krone, S. M., Joyce, P., & Baumgaertner, B. O. (2016). Planning horizon affects prophylactic decision-making and epidemic dynamics. *PeerJ*, 4, e2678.
7. **Nardin, L. G.**, Andrighetto, G., Conte, R., Székely, Á., Anzola, D., Elsenbroich, C., Lotzmann, U., Neumann, M., Punzo, V., & Troitzsch, K. G. (2016). Simulating protection rackets: A case study of the Sicilian mafia. *Journal of Autonomous Agents and Multi-Agent Systems*. 30(6), 1117–1147.
8. **Nardin, L. G.**, Balke, T., Ajmeri, N., Kalia, A. A., Sichman, J. S., & Singh, M. P. (2016). Classifying sanctions and designing a conceptual sanctioning process model for socio-technical systems. *The Knowledge Engineering Review*. 31(2), 142–166.
9. **Nardin, L. G.**, Brandão, A. A. F., Kira, E., & Sichman, J. S. (2014). Effects of reputation communication expressiveness in virtual societies. *Computational and Mathematical Organization Theory*, 20(2), 113–132.
10. Villatoro, D., Andrighetto, G., Brandts, J., **Nardin, L. G.**, Sabater-Mir, J., & Conte, R. (2014). The norm-signaling effects of group punishment: Combining agent-based simulation and laboratory experiments. *Social Science Computer Review*, 32(3), 334–353.
11. Pereira, A. H., **Nardin, L. G.**, & Sichman, J. S. (2012). LTI Agent Rescue: A partial global approach for task allocation in the RoboCup Rescue. *Revista de Informática Teórica e Aplicada*, 19(2), 71–92.
12. **Nardin, L. G.**, Brandão, A. A. F., & Sichman, J. S. (2011). Experiments on semantic interoperability of agent reputation models using the SOARI architecture. *Engineering Applications of Artificial Intelligence*, 24(8), 1461–1471.

Edited Book

1. Deutschmann, E., Lorenz, J., **Nardin, L. G.**, Natalini, D., & Wilhelm, A. F. X. (Eds.) (2020). *Computational Conflict Research*. Cham: Springer, Computational Social Sciences Book Series.
2. **Nardin, L. G.** & Antunes, L. (Eds.) (2017). *Multi-Agent Based Simulation XVII: International Workshop, MABS 2016, Singapore, Singapore, May 10, 2016, Revised Selected Papers*. Cham: Springer, Lecture Notes in Computer Science v.10399.

Book Chapter

1. Duffy, F. S., Klosek, K. C., **Nardin, L. G.**, & Wagner, G. (2020). Rebel group protection rackets: Simulating the effects of economic support on civil war violence. In E. Deutschmann, J. Lorenz, L.G. Nardin, D. Natalini, & A. F. X. Wilhelm (Eds.), *Computational Conflict Research* (pp. 225–251). Cham: Springer, Computational Social Sciences Book Series.
2. Deutschmann, E., Lorenz, J., & **Nardin, L. G.** (2020). Advancing conflict research through computational approaches. In E. Deutschmann, J. Lorenz, L.G. Nardin, D. Natalini, & A. F. X. Wilhelm (Eds.), *Computational Conflict Research* (pp. 1–19). Cham: Springer, Computational Social Sciences Book Series.
3. de Lima, I. C. A., **Nardin, L. G.**, Sichman, J. S. (2019). Gavel: A sanctioning enforcement framework. In Weyns, D., Mascardi, V., Ricci, A. (Eds.). *Engineering Multi-Agent Systems* (pp. 225–241). Cham: Springer, Lecture Notes in Computer Science v.11375.
4. Visser, A., **Nardin, L. G.**, Castro, S. (2019). Integrating the latest artificial intelligence algorithms into the RoboCup Rescue Simulation framework. In Holz, D., Genter, K., Saad, M., von Strk, O. (Eds.). *RoboCup 2018: Robot World Cup XXII* (pp. 476–487). Cham: Springer, Lecture Notes in Computer Science v.11374.

5. **Nardin, L. G.**, Andrighetto, G., Székely, Á., Punzo, V., & Conte, R. (2016). An agent-based model of extortion racketeering. In Elsenbroich, C., Anzola, D., & Gilbert, N. (Eds.). *Social Dimensions of Organised Crime* (pp. 105–116). Cham: Springer.
6. Székely, Á., Andrighetto, G., **Nardin, L. G.** (2016). Social norms and extortion rackets. In Elsenbroich, C., Anzola, D., & Gilbert, N. (Eds.). *Social Dimensions of Organised Crime* (pp. 49–64). Cham: Springer.
7. Troitzsch, K. G., **Nardin, L. G.**, Andrighetto, G., Székely, Á., Punzo, V., Conte, R., & Elsenbroich, C. (2016). Calibration and validation. In Elsenbroich, C., Anzola, D., & Gilbert, N. (Eds.). *Social Dimensions of Organised Crime* (pp. 217–239). Cham: Springer.
8. **Nardin, L. G.**, Andrighetto, G., Székely, Á., & Conte, R. (2016). Modelling extortion racket systems: Preliminary results. In Cecconi, F. (Ed.). *New Frontiers in the Study of Social Phenomena: Cognition, Complexity, Adaptation* (pp. 65–80). Cham: Springer.
9. **Nardin, L. G.**, Rosset, L., Sichman, J. S. (2014). Scale and topology effects on agent-based simulation: A trust-based coalition formation case study. In Adamatti, D. F., Dimuro, G. P., & Coelho, H. (Org.). emphInterdisciplinary Applications of Agent-Based Social Simulation and Modeling (pp. 36–51). Hershey: IGI Global.
10. **Nardin, L. G.**, Brandão, A. A. F., Sichman, J. S., & Vercouter, L. (2008). SOARI: A service oriented architecture to support agent reputation models interoperability. In Falcone, R., Barber, S. K., Sabater-Mir, J., & Singh, M. P. (Org.). *Trust in Agent Societies* (pp. 292–307). Heidelberg: Springer, Lecture Notes in Computer Science v.5396.

Peer-Reviewed Conference Proceeding

Full Paper

1. Wagner, G. & **Nardin, L. G.** (2018). Adding agent concepts to object event modeling and simulation. *Proceedings of the 2018 Winter Simulation Conference*. Gothenburg: IEEE, pp. 893–904.
2. Visser, A., **Nardin, L. G.**, & Casto, S. (2018). RoboCup Rescue simulation: Machine learning workshop. *Proceedings of the RoboCup 2018*. Montréal.
3. **Nardin, L. G.**, Andrighetto, G., Conte, R., & Paolucci, M. (2014). From anarchy to monopoly: How competition and protection shaped mafia's behavior. *Advances in Computational Social Science and Social Simulation (SSC'14)*. Barcelona: Autònoma University of Barcelona, pp. 444–454.
4. Rosset, L., **Nardin, L. G.**, & Sichman, J. S. (2014). Using reputation to improve partner selection in a smart grid environment. *Proceedings of the Brazilian Workshop on Social Simulation (BWSS'14)*, São Paulo.
5. Medina, A. C., **Nardin, L. G.**, Pereira, N. N., Botter, R. C., & Sichman, J. S. (2013). A distributed simulation model of the maritime logistics in an iron ore supply chain management. *Proceedings of the 3rd International Conference on Simulation and Modeling Methodologies, Technologies and Applications (SIMULTECH'13)*, Reykjavik, pp. 453–460.
6. Barroso, A. D., Santana, F. C., Lassance, V., da Silva, A. B. M., **Nardin, L. G.**, Brandão, A. A. F., & Sichman, J. S. (2013). RoboCup Rescue 2013 LTI Agent Rescue Team Description. *Proceedings of the RoboCup 2013*, Eindhoven.
7. da Silva, A. B. M., **Nardin, L. G.**, & Sichman, J. S. (2012). Um método baseado em particionamento para exploração de ambientes de desastre. *Anais do 9o Encontro Nacional de Inteligência Artificial (ENIA'12)*, Curitiba.
8. **Nardin, L. G.** & Sichman, J. S. (2012). Trust-based coalition formation: A multiagent-based simulation. *Proceedings of the 4th World Congress on Social Simulation (WCSS'12)*, Taipei.
9. **Nardin, L. G.** & Sichman, J. S. (2011). A study of the influence of trust in coalition formation. *Proceedings of the 2011 Computational Social Science of America Annual Conference*, Santa Fe, NM.
10. **Nardin, L. G.**, Brandão, A. A. F., Kira, E., Sichman, J. S. (2011). Effects of communication expressiveness in agent reputation models interoperability: A multivariate analysis approach. *Proceedings of the 2nd International Conference on Reputation (ICORE'11)*, Montpellier.
11. Brito, I., Hino, C., Gonçalves, P., Andrade, L., Moreira, C., Costa, G., **Nardin, L. G.**, Yoshizaki, H. Y., & Magalhães, D. J. (2011). Reducing CO2 emissions due to a shift from road to cabotage transport of cargo in Brazil. *Proceedings of the 29th International Conference of The System Dynamics Society*, Washington, D.C..
12. Pereira, A. H., **Nardin, L. G.**, Brandão, A. A. F., & Sichman, J. S. (2011). LTI Agent Rescue Team: A BDI-based approach for Robocup Rescue. *Proceedings of the RoboCup 2011*, Istanbul.

13. Pereira, A. H., **Nardin, L. G.**, & Sichman, J. S. (2011). Coordination of agents in the RoboCup Rescue: A partial global approach. Agent Systems, their Environment and Applications, Workshop and School of. Los Alamitos, CA: IEEE, pp. 45–50.
14. **Nardin, L. G.** & Sichman, J. S. (2010). Simulating the impact of trust in coalition formation: A preliminary analysis. In Dimuro, G. P., Costa, A. C. de R., Sichman, J. S., Adamatti, D. F., Tedesco, P., Balsa, J., & Antunes, L. (Org.). *Advances in Social Simulation, Post-Proceedings of the Brazilian Workshop on Social Simulation*. Los Alamitos, CA: IEEE, pp. 33–40.
15. **Nardin, L. G.** & Sichman, J. S. (2010). SOARI: A service-oriented architecture to enable interoperability of agent reputation models. *Anais do 7o. Concurso de Teses e Dissertações em Inteligência Artificial (CTDIA'10)*, São Bernardo do Campo, pp. 299–310.
16. **Nardin, L. G.**, Muller, G. W., Brandão, A. A. F., Vercouter, L., & Sichman, J. S. (2009). Effects of expressiveness and heterogeneity of reputation models in the ART Testbed: Some preliminary experiments using the SOARI architecture. *Proceedings of the 12th International Workshop on Trust in Agent Societies (TRUST'09)*, Hungary.
17. **Nardin, L. G.**, Brandão, A. A. F., Sichman, J. S., & Vercouter, L. (2008). A service-oriented architecture to support agent reputation models interoperability. *Proceedings of the 3rd Workshop on Ontologies and their Applications (WONTO'08)*, Salvador, CEUR Workshop Proceedings v.427.

Extended Abstract

1. Rosset, L., **Nardin, L. G.**, & Sichman, J. S. (2013). Use of high performance computing in agent-based social simulation: A case study on trust-based coalition formation. *Anais do VII Workshop-Escola de Sistemas de Agentes, seus Ambientes e apliCações (WESAAC'13)*, São Paulo, pp. 161–163.
2. Barroso, A. D., Santana, F. C., Lassance, V., **Nardin, L. G.**, Brandão, A. A. F., & Sichman, J. S. (2013). Using agent coordination techniques to support rescue operations in urban disaster environments. *Anais do VII Workshop-Escola de Sistemas de Agentes, seus Ambientes e apliCações (WESAAC'13)*. São Paulo, pp. 189–191.
3. **Nardin, L. G.**, Brandão, A. A. F., Sichman, J. S., & Vercouter, L. An ontology mapping service to support agent reputation models interoperability. *Proceedings of the 11th International Workshop on Trust in Agent Societies (TRUST'08)*, Estoril, pp. 140–144.

RESEARCH PROJECTS FUNDED

2013–2014	On the Influence of Norms and Sanctions on Socio-technical Systems Governance – An Agent-based Simulation Approach	UGPN Research Collaboration Fund
2008–2009	SOARI: Service Oriented Architecture for Reputation Interoperability	FAPESP 2008/06356-3

RESEARCH PROJECTS PARTICIPATION

2015–2017	Theory, Practice, and Social Aspects of Reproducible Science	University of Idaho
2015–2017	Social Determinants of Infectious Disease Dynamics	NIGMS/NIH P20GM104420
2012–2015	Global Dynamics of Extortion Racket Systems	FP7-ICT 315874
2010–2011	Vale's Network of Ports and Ships Modeling and Simulation	Vale do Rio Doce

TEACHING EXPERIENCE

2020	**Lecturer**	Data Intensive Architectures (National College of Ireland)
2020	**Lecturer**	Data Mining and Machine Learning I (National College of Ireland)
2020	**Lecturer**	Computing Systems (National College of Ireland)
2019	**Lecturer**	Research in Computing (National College of Ireland)
2019	**Lecturer**	Advanced Programming (National College of Ireland)
2019	**Lecturer**	Web Application Development (National College of Ireland)
2018	**Lecturer**	Data Analytics and Machine Learning with R (Brandenburg University of Technology)
2017–2018	**Lecturer**	Multiagent Systems (Brandenburg University of Technology)
2019	**Tutor**	Modeling and Simulation of Discrete Systems (Brandenburg University of Technology)
2017–2019	**Tutor**	Web Applications (Brandenburg University of Technology)
2017–2018	**Tutor**	Web Documents (Brandenburg University of Technology)
2016	**Instructor**	R Workshop (University of Idaho)
2012	**Tutor**	Artificial Intelligence Laboratory (University of São Paulo)
2011	**Tutor**	Fundamentals of Computer Engineering Laboratory (University of São Paulo)

SUPERVISION EXPERIENCE

Master Students

2019	de Lima, I. C. A.	Sanction-based regulation mechanism for normative multiagent systems
2018	Wang, Y.	Teaching economics with Lengnick's Baseline Economy model
2017	Xu, K.	Educational simulations based on the Lemonand Stand Game
2017	Lelo, J. C.	Mafia: Simulating the influence on the economy

Undergraduate Students

2014	Rosset, L. M.	Uso de sanções na formação e manutenção de parcerias entre agentes autônomos
2013	Barroso, A. Lassance, V. Santana, F. C.	Uso de técnicas de coordenação entre agentes para operações de resgate em ambientes de desastre urbano
2013	Rosset, L. M.	Simulação de parcerias entre agentes autônomos
2012	da Silva, A. B.	Coordenação de agentes para RoboCup Rescue Agent Simulation
2011	Perreira, A. H.	Time de agentes para RoboCup Rescue Agent Simulation

ACADEMIC SERVICE

Events

2019	Tutorial Presenter	Introduction to JavaScript-based Simulation @SummerSim 2019
2018	Expert	BIGSSS Summer Schools in Computational Social Science
2018	Organizer	RoboCup Rescue Simulation League @RoboCup 2018
2017	Organizer	RoboCup Rescue Simulation League @RoboCup 2017
2016	Organizer	International Workshop on Multi-Agent-Based Simulation
2016	Organizer	RoboCup Rescue Simulation League @RoboCup 2016
2015	Organizer	RoboCup Rescue Simulation League @RoboCup 2015
2014	Local Organizer	RoboCup Rescue Simulation League @RoboCup 2014
2013	Track Chair	Analytical, Cognitive and Dynamic Models into IS @itAIS 2013
2012	Organizer	RoboCup Rescue Simulation League @LARC 2012
2012	Tutorial Presenter	"RoboCup Rescue Simulation League" @WESAAC 2012

Committee Member

2017–Present	Executive Committee Member	RoboCup Rescue Simulation League
2012–2017	Technical Committee Member	RoboCup Rescue Simulation League

Editorial Position

2017–Present	Co-Editor	Journal of Simulation Engineering (JSimE)

HONORS AND AWARDS

2018	RoboCup Rescue Simulation League Infrastructure Award	RoboCup 2018, Canada
2014	Best Student Paper Award	SSC 2014, Spain
2013	Gold Medal at RoboCup Rescue Agent Simulation	CBR 2013, Brazil
2012	Gold Medal at RoboCup Rescue Agent Simulation	LARC 2012, Brazil
2011	Gold Medal at RoboCup Rescue Agent Simulation	CBR 2011, Brazil
2011	Among the 3 best papers	WESAAC 2011, Brazil
2010	Silver Medal at RoboCup Rescue Agent Simulation	LARC 2010, Brazil

TECHNICAL SKILLS

Programming Language	Java, R, JavaScript
Development IDE	Visual Studio Code, RStudio
Typesetting	LaTeX, Microsoft Office, HTML/CSS

LANGUAGES

Portuguese	Native
English	Fluent
Italian	Advanced (Spoken and Read) and Basic (Written)
German	Basic (A1)