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Research Interests

Intelligent Agents and Artificial Intelligence

Academic Qualifications

University/Institution	Type	Degree	Period
ISCTE-IUL - Instituto Superior Ciências Trabalho e da Empresa	PhD	Organização e Gestão de Empresas	1997
Instituto Superior Técnico - UTL	M.Sc.	Engenharia Electrotécnica e de Computadores	1990
Instituto Superior Técnico - UTL	Licenciate	Engenharia Electrotécnica	1983

Teaching Activities

Teaching Year	Sem.	Course Name	Degree(s)	Coord.
2024/2025	1º	Autonomous Agents	Bachelor Degree in Computer Engineering (PL); Bachelor Degree in Computer Engineering;	Yes
2023/2024	1º	Autonomous Agents	Bachelor Degree in Computer Engineering (PL); Bachelor Degree in Computer Engineering;	Yes
2022/2023	1º	Autonomous Agents	Bachelor Degree in Computer Engineering (PL); Bachelor Degree in Computer Engineering;	Yes
2021/2022	1º	Autonomous Agents	Bachelor Degree in Computer Engineering (PL); Bachelor Degree in Computer Engineering;	Yes
2020/2021	2º	Autonomous Agents	Bachelor Degree in Computer Engineering (PL); Bachelor Degree in Computer Engineering;	Yes
2020/2021	1º	Artificial Intelligence		No

Supervisions

• Ph.D. Thesis

- Concluded

	Student Name	Title/Topic	Language	Institution	Concluding Year
1	Paulo Roberto Almeida Moreira da Costa	Learning control knowledge by observation in software agents	English	Iscte	2014
2	António Luís Morais Costa Silva Lopes	Distributed coordination in unstructured intelligent agent societies	English	Iscte	2011

• M.Sc. Dissertations

- Concluded

	Student Name	Title/Topic	Language	Institution	Concluding Year
1	Carlos Diogo Oliveira de Almeida	Xprolog - Desenvolvimento de uma folha de cálculo dedutivo	Portuguese	Iscte	2015
2	Daniel Bhatt Ambaram	Tratamento computacional de um modelo de desenvolvimento de crises pessoais	Portuguese	Iscte	2014

• M.Sc. Final Projects

- Concluded

	Student Name	Title/Topic	Language	Institution	Concluding Year
1	Diogo Miguel Hortêncio Farinha	Automatic Generation of Descriptions for Prolog Programs	English	Iscte	2019

Total Citations

Web of Science®	67
Scopus	132

Publications

• Scientific Journals

- Scientific journal paper

1	Ramos, P., Botelho, L. & Martins, A. (2021). Enhancing excel business tools with additional relational and recursive capabilities. International Journal of Information Technology and Management, 20(4), 356?376. https://doi.org/10.1504/IJITM.2021.119894 - Times Cited Google Scholar: 1
2	Costa, P. & Botelho, L. (2013). Learning by observation of agent software images. Journal of Artificial Intelligence Research, 47, 313?349. https://doi.org/10.1613/jair.3989 - Times Cited Web of Science®: 2 - Times Cited Scopus: 2 - Times Cited Google Scholar: 4
3	Lopes, A. L. & Botelho, L. (2013). Distributed Coordination of Heterogeneous Agents Using a Semantic Overlay Network and a Goal-Directed Graphplan Planner. PLoS One, 8(5), e62931. https://doi.org/10.1371/journal.pone.0062931 - Times Cited Web of Science®: 1 - Times Cited Scopus: 1 - Times Cited Google Scholar: 2
4	Lopes, A. L. & Botelho, L. (2008). Improving multi-agent based resource coordination in peer-to-peer networks. Journal of Networks, 3(2), 38?47. - Times Cited Scopus: 20 - Times Cited Google Scholar: 30
5	Botelho, L. & Coelho, H. (2001). Machinery for artificial emotions. Cybernetics and Systems, 32(5), 465?506. https://doi.org/10.1080/019697201750257748 - Times Cited Web of Science®: 15 - Times Cited Scopus: 18 - Times Cited Google Scholar: 50

• Books and Book Chapters

- Book author

1	Botelho, L. (2021). A guided journey through non-interactive automatic story generation. Lambert Academic Publishing. - Times Cited Web of Science®: 1 - Times Cited Google Scholar: 2

- Book chapter

1	Bonardi, D., Botelho, L., Klusch, M., Lopes, A. L., Möller, T., Sousa, A....Vasirani, M. (2008). Quantitative Analysis. In Michael Schumacher, Heikki Helin, Heiko Schuldt (Ed.), CASCOM: Intelligent Service Coordination in the Semantic Web (pp. 349?362). Whitestein. https://doi.org/10.1007/978-3-7643-8575-0_16
2	Botelho, L., Lopes, A. L., Möller, T. & Schuldt, H. (2008). Semantic Web Service Execution. In Michael Schumacher, Heikki Helin, Heiko Schuldt (Ed.), CASCOM: Intelligent Service Coordination in the Semantic Web (pp. 263?288). Whitestein. - Times Cited Google Scholar: 1
3	Paulo Costa, Bruno Gonçalves & Botelho, L. (2008). Context?Awareness System. In Michael Schumacher, Heikki Helin and Heiko Schuldt (Ed.), CASCOM: Intelligent Service Coordination in the Semantic Web (pp. 289?308). Birkhäuser. - Times Cited Google Scholar: 2
4	Lopes, A. L. & Botelho, L. (2007). Executing Semantic Web Services with a Context-aware Service Execution Agent. Service-Oriented Computing: Agents, Semantics, and Engineering (pp. 1?15). Springer-Verlag. https://doi.org/10.1007/978-3-540-72619-7_1 - Times Cited Web of Science®: 5 - Times Cited Scopus: 7 - Times Cited Google Scholar: 12
5	Lopes, A. L. & Botelho, L. (2005). Chomsky: a Content Language Translation Agent. Multi-Agent Systems and Applications (pp. 535?538). Springer-Verlag. https://doi.org/10.1007/11559221_54 - Times Cited Web of Science®: 2 - Times Cited Scopus: 2 - Times Cited Google Scholar: 3

• Conferences/Workshops and Talks

- Publication in conference proceedings

1	Lopes, A. L. & Botelho, L. (2012). Efficient algorithms for agent-based semantic resource discovery. 8th International Workshop on Agents and Peer-to-Peer Computing, AP2PC 2009 (pp. 71?82). Springer. https://doi.org/10.1007/978-3-642-31809-2_7 - Times Cited Google Scholar: 7
2	Costa, P. & Botelho, L. (2012). Learning by observation in software agents. ICAART 2012 - International Conference on Agents and Artificial Intelligence (pp. 0?0). - Times Cited Web of Science®: 2 - Times Cited Google Scholar: 3

3	Costa, P. & Botelho, L. (2011). Software Image for Learning by Observation. EPIA2011 - 15th Portuguese Conference on Artificial Intelligence (pp. 0?0). - Times Cited Google Scholar: 3
4	Lopes, A. L. & Botelho, L. M. (2010). Coordination in open and unstructured intelligent agent societies: Using distributed planners on top of a semantic overlay network. In Filipe, J., Fred, A. L. N., and Sharp, B. (Ed.), ICAART 2010 - Proceedings of the International Conference on Agents and Artificial Intelligence (pp. 347?350). INSTICC Press.
5	Botelho, L., Fernández, A., Fries, B., Klusch, M., Pereira, L., Santos, T....Vasirani, M. (2008). Service discovery. In Michael Schumacher, Heikki Helin and Heiko Schuldt (Ed.), CASCOM: Intelligent service coordination in the semantic web: Conference proceedings (pp. 205?233). Birkhäuser. https://doi.org/10.1007/978-3-7643-8575-0_10 - Times Cited Scopus: 20 - Times Cited Google Scholar: 11
6	Bruno Gonçalves, Paulo Costa & Botelho, L. (2008). Context-awareness. In Michael Schumacher, Helko Schuldt, Helkki Helin (Ed.), CASCOM: Intelligent service coordination in the semantic web: Conference proceedings (pp. 105?123). Birkhäuser. https://doi.org/10.1007/978-3-7643-8575-0_5 - Times Cited Google Scholar: 4
7	Blankenburg, B., Botelho, L., Calhau, F, Fernández, A., Klusch, M. & Ossowski, S. (2008). Service composition. In Michael Schumacher, Heikki Helin and Heiko Schuldt (Ed.), CASCOM: Intelligent service coordination in the semantic web: Conference proceedings (pp. 235?262). Birkhäuser. https://doi.org/10.1007/978-3-7643-8575-0_11
8	Lopes, A. L. & Botelho, L. (2007). Task Decomposition and Delegation Algorithms for Coordinating Unstructured Multi Agent Systems. International Conference on Complex, Intelligent and Software Intensive Systems (pp. 209?214). https://doi.org/10.1109/CISIS.2007.52 - Times Cited Web of Science®: 2 - Times Cited Scopus: 6 - Times Cited Google Scholar: 15
9	Lopes, A. L. & Botelho, L. (2007). A Context-aware Semantic Web Service Execution Agent. 9th International Conference on Enterprise Information Systems (pp. 231?234). - Times Cited Scopus: 3 - Times Cited Google Scholar: 2
10	Gonçalves, B., Esteves, S., Lopes, A. L. & Botelho, L. (2006). Cognitive Agents Based Simulation for Decisions Regarding Human Team Composition. International Joint Conference on Autonomous Agents and Multi Agent Systems (pp. 65?72). https://doi.org/10.1145/1160633.1160641 - Times Cited Scopus: 2 - Times Cited Google Scholar: 11
11	Mota, L. & Botelho, L. (2005). OWL ontology translation based on the O3F framework. In Michal Pechoucek , Donald Steiner, Simon Thompson (Ed.), AAMAS '05 Proceedings of the fourth international joint conference on Autonomous agents and multiagent systems (pp. 1317?1318). ACM Press. - Times Cited Google Scholar: 1
12	Lopes, A. L. & Botelho, L. (2005). Agent Technology for Context-aware Execution of Semantic Web Services. First UK Young Researchers Workshop on Service Oriented Computing.
13	Lopes, A. L., Esteves, S., Gonçalves, B. & Botelho, L. (2005). BAT: Brainstorm Assistance Tool. Mobile Computing meets Knowledge Management Workshop. - Times Cited Google Scholar: 1

14	Lopes, A. L. & Botelho, L. (2005). SEA: a Semantic Web Services Context-aware Execution Agent. AAAI Fall Symposium on Agents and the Semantic Web. - Times Cited Scopus: 8 - Times Cited Google Scholar: 12
15	Mota, L. & Botelho, L. (2005). OWL ontology translation for the semantic web. Semantic Computing Workshop, 14th International World Wide Web Conference (WWW 2005) (pp. 0?0). - Times Cited Google Scholar: 7
16	Botelho, L., Marinheiro, R., Mendes, H. & Figueiredo, P. (2003). Send Fredo off to do this, send Fredo off to do that. In Klusch, M., Omicini, A., Ossowski, S., and Laamanen, H. (Ed.), Cooperative Information Agents VII. CIA 2003. Lecture Notes in Computer Science (pp. 152?159). Springer. https://doi.org/10.1007/978-3-540-45217-1_11 - Times Cited Scopus: 1 - Times Cited Google Scholar: 11
17	Mota, L., Botelho, L., Mendes, H. & Lopes, A. (2003). O3F: An object oriented ontology framework. In Rosenschein, J. S., Wooldridge, M., Sandholm, T., and Yokoo, M. (Ed.), AAMAS '03: Proceedings of the second international joint conference on Autonomous agents and multiagent systems (pp. 639?646). Association for Computing Machinery. https://doi.org/10.1145/860575.860678 - Times Cited Scopus: 6 - Times Cited Google Scholar: 18
18	Lopes, A. L., Gaio, S. & Botelho, L. (2002). From DAML-S to executable code. AAMAS Workshop AgentCities - Challenges in Open Agent Systems. - Times Cited Google Scholar: 12
19	Mota, Luís, J. Bento & Botelho, L. (2002). Ontology definition languages for Multi-Agent Systems: the Geographical Information Ontology case study. In S T E P H E N C R A N E F I E L D , S T E V E N WILLMOT T and T I M F I N I N (Ed.), 1st International Joint Conference on Autonomous Agents and Multi Agent Systems (pp. 0?0). International Foundation for Autonomous Agents and Multiagent Systems. - Times Cited Google Scholar: 9
20	Mota, Luís & Botelho, L. (2002). Agente Autónomo de Informação Geográfica. In Rui Pedro Julião (Ed.), ESIG2002 ? Encontro de Utilizadores de Informação Geográfica 2002 (pp. 0?0). USIG - Associação Portuguesa de Utilizadores de Informação Geográfica.
21	Lopes, A., Gaio, S. & Botelho, L. (2002). Personal access to a worldwide agent network. In Gini, M., Ishida, T., Castelfranchi, C., and Johnson, W. L. (Ed.), AAMAS '02: Proceedings of the first international joint conference on Autonomous agents and multiagent systems (pp. 587?588). Association for Computing Machinery. https://doi.org/10.1145/544862.544882 - Times Cited Google Scholar: 5
22	Mota, Luís, J. Bento & Botelho, L. (2001). Ontologias de Informação Geográfica. In Prof. Nuno de Sousa Neves, (Ed.), ESIG2001 ? Encontro de Utilizadores de Informação Geográfica 2001 (pp. 0?0). USIG - Associação dos Utilizadores de Sistemas de Informação Geográfica. - Times Cited Google Scholar: 2
23	Abreu, B., Botelho, L., Cavallaro, A., Douchamps, D., Ebrahimi, T., Figueiredo, P....Violante, A. (2000). Video-based multi-agent traffic surveillance system. In Rillings, J. (Ed.), Proceedings of the IEEE Intelligent Vehicles Symposium 2000 (pp. 457?462). https://doi.org/10.1109/IVS.2000.898385 - Times Cited Web of Science®: 36 - Times Cited Scopus: 36 - Times Cited Google Scholar: 80

- Talk

1	Costa, P. & Botelho, L. (2012). Learning by observation in software agents. ICAART 2012 - International Conference on Agents and Artificial Intelligence,. https://doi.org/10.5220/0003834502760281 - Times Cited Web of Science®: 1
2	Costa, P. & Botelho, L. (2011). Software Image for Learning by Observation. EPIA 2011 - Portuguese Conference on Artificial Intelligence,.
3	Lopes, A. L. & Botelho, L. (2010). Coordination in Open and Unstructured Intelligent Agent Societies: Using Distributed Planners on Top of a Semantic Overlay Network. ICAART 2010,.
4	Lopes, A. L. & Botelho, L. (2008). Efficient algorithms for agent-based semantic resource discovery. Agents and Peer-to-Peer Computing,.
5	Lopes, A. L. & Botelho, L. (2007). Task Decomposition and Delegation Algorithms for Coordinating Unstructured Multi Agent Systems. International Conference on Complex, Intelligent and Software Intensive Systems,, 209?214.
6	Lopes, A. L. & Botelho, L. (2007). A Context-aware Semantic Web Service Execution Agent. 9th International Conference on Enterprise Information Systems,.
7	Lopes, A. L. & Botelho, L. (2007). Executing Semantic Web Services with a Context-aware Service Execution Agent. Service-Oriented Computing: Agents, Semantics, and Engineering, 4504, 1?15.
8	Lopes, A. L. & Botelho, L. (2005). Agent Technology for Context-aware Execution of Semantic Web Services. First UK Young Researchers Workshop on Service Oriented Computing,.
9	Lopes, A. L., Esteves, S., Gonçalves, B. & Botelho, L. (2005). BAT: Brainstorm Assistance Tool. Mobile Computing meets Knowledge Management Workshop,.
10	Lopes, A. L. & Botelho, L. (2005). SEA: a Semantic Web Services Context-aware Execution Agent. AAAI Fall Symposium on Agents and the Semantic Web,.
11	Lopes, A. L. & Botelho, L. (2005). Chomsky: a Content Language Translation Agent. Multi-Agent Systems and Applications, 3690, 535?538.
12	Mota, L. & Botelho, L. (2003). Agentcities needs ontologies that represent methods. Agentcities Information Day,.
13	Lopes, A. L., Gaio, S. & Botelho, L. (2002). Personal Access to a WorldWide Agent Network. 1st joint conference on Autonomous Agents and Multi-Agent Systems,.
14	Lopes, A. L., Gaio, S. & Botelho, L. (2002). From DAML-S to Executable Code. AAMAS Workshop AgentCities - Challenges in Open Agent Systems,.

• Other Publications

- Non-peer-reviewed papers

1	Botelho, L., Nunes, Luis, Ribeiro, R. & Lopes, Rui J. (2022). Learning Rhetorical Structure Theory-based descriptions of observed behaviour. arXiv,. https://doi.org/10.48550/arXiv.2206.12294
2	Botelho, L., Nunes, Luis, Ribeiro, R. & Lopes, Rui J. (2015). Software Agents with Concerns of their Own. arXiv,. https://doi.org/10.48550/arXiv.1511.03958 - Times Cited Google Scholar: 1

- Other publications

1	Willmott, S, Constantinescu, I., Dale, J., Somacher, M., Marinheiro, R. N., Mota, L....Tan, J. (2003). Agentcities Network Architecture Recommendation. AGENTCITIES.RTD,. - Times Cited Google Scholar: 12

Research Projects

Project Title	Role in Project	Partners	Period
Testbed for Worldwide Agent Network: Research and Development	Local Coordinator	ADETTI-IUL	2001 - 2003
Multimedia object descriptors extraction from surveillance tapes	Local Coordinator	ADETTI-IUL	1998 - 2001

Academic Management Positions

Coordenador do 3º Ano (2023 - 2024)
Unit/Area: Bachelor Degree in Computer Engineering (PL)

Coordenador do 3º Ano (2023 - 2024)
Unit/Area: Bachelor Degree in Computer Engineering

Coordenador do 3º Ano (2021 - 2023)
Unit/Area: Bachelor Degree in Computer Engineering (PL)

Coordenador do 3º Ano (2021 - 2023)
Unit/Area: Bachelor Degree in Computer Engineering

Coordenador do 3º Ano (2016 - 2017)
Unit/Area: Bachelor Degree in Computer Science and Business Management

Coordenador do 3º Ano (2016 - 2017)
Unit/Area: Bachelor Degree in Computer Science and Business Management (PL)

Coordenador do 3º Ano (2014 - 2016)
Unit/Area: Bachelor Degree in Computer Science and Business Management (PL)

Coordenador do 3º Ano (2014 - 2016)
Unit/Area: Bachelor Degree in Computer Science and Business Management

Director (2013 - 2016)
Unit/Area: Doctorate Degree (PhD) in Information Science and Technology

Director (2011 - 2013)
Unit/Area: Doctorate Degree (PhD) in Information Science and Technology

Coordenador do 3º Ano (2011 - 2014)
Unit/Area: Bachelor Degree in Computer Science and Business Management

Director (2010 - 2011)
Unit/Area: Doctorate Degree (PhD) in Information Science and Technology

Membro (Docente) (2010 - 2013)
Unit/Area: Plenário da Comissão Científica

Membro (Docente) (2010 - 2013)
Unit/Area: Comissão Científica