Lesandro Ponciano

Also known as: **Lesandro Ponciano dos Santos**

E-mail: lesandro.ponciano@gmail.com
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ORCID: https://orcid.org/0000-0002-5724-0094

Expertise: Collaborative Systems • HCI • Data Science • e-Science • Citizen Science • Human Computation
Experience: Quantitative Research • System Simulation • Data Modeling • GQM Method • Data Mining
Languages: Portuguese (native) • English (advanced) • Spanish (basic)

Education

PhD. in Computer Science (**2012 - 2015**) • Federal University of Campina Grande, Brazil
- Thesis: Human Computation from the Perspective of the Engagement and Credibility of Humans and the Replication of Tasks
- Advisor: Francisco Brasileiro, PhD. Newcastle University (UK), fubica@dsc.ufcg.edu.br
- Grade Point Average: 10.0/10.0

M.Sc. in Computer Science **(2009 - 2011)** • Federal University of Campina Grande, Brazil
- Thesis: Assessing Energy Saving Strategies in Peer-to-Peer Opportunistic Grids
- Advisor: Francisco Brasileiro, PhD. Newcastle University (UK), fubica@dsc.ufcg.edu.br
- Grade Point Average: 9.0/10.0 - Distinction: **Summa cum laude**

B.Sc. in Information Systems **(2005 - 2008)** • Pontifical Catholic University of Minas Gerais, Brazil
- Grade Point Average: 8.9/10.0 - Distinction: **Summa cum laude**

Work Experiences

Pos-doc Researcher (01/2022 - 12/2022) • Dresden University of Technology, Germany
- Institute of Systems Architecture - Chair of Systems Engineering
- Project: AI-Sprint - Artificial intelligence in Secure PRIvacy-preserving computing coNTinuum
- European Union Horizon 2020 research and innovation programme under Grant Agreement No. 101016577

Associate Professor (02/2016 - "sabbatical leave of absence" since 12/2021) • Pontifical Catholic University of Minas Gerais, Belo Horizonte, Brazil
- Institute of Exact Sciences and Informatics- Department of Software Engineering and Information Systems
- Programs: Computer Science, Software Engineering, Information Systems, Electrical Engineering

Researcher (02/2016 - 12/2016) • Laboratory of Distributed Systems, Brazil
- Project: PrivIoT - Privacy on the Internet of Things
- Sponsored by Hewlett-Packard (HP)
- Technical skills: R, Python, Internet of Things (IoT), survey design and validation

Analytics Tutor (01/2012 - 05/2013) • Federal University of Campina Grande, Brazil
- Project: Analytics Training Program
- Sponsored by Hewlett-Packard (HP) Brazil
- Technical skills: R, Python, Data Visualization, Statistics

Scientific Awards

2022 **Special Recognitions for Outstanding Reviews**, the ACM Group 2022 /23 Conference. Association for Computing Machinery

2021 **Best reviewers of the 1st Brazilian Symposium on Computer Education (EduComp)**, Brazilian Computer Society.

2020 **Honourable Mention in Exact Sciences as advisor of undergraduate research** (student Gabriel Moreira Chaves), the 28th Scientific Initiation Seminar, Pontifical Catholic University of Minas Gerais.

2019 **Special Recognitions for Outstanding Reviews**, the ACM CHI 2020 Conference. Association for Computing Machinery

2018 **Honourable Mention in Exact Sciences as advisor of undergraduate research (**student Arthur V. Soares Pereira), the 26th Scientific Initiation Seminar, Pontifical Catholic University of Minas Gerais.

2017 **Third best paper of the Brazilian Symposium on Collaborative Systems (SBSC),** paper "Analysis of the Popularity, Visibility and Activity of Different Types of Robots on the Social Network Twitter", Brazilian Computer Society.

2014 **Student Scholarship at the 10th IEEE International eScience Conference**, The IEEE eScience International Conference. IEEE Computer Society.

2011 **Best Computer Science Master Thesis - Finalist** (one of 10) in Brazil, Brazilian Computer Society.

2010 **Honourable Mention for the paper "Analysis of Green Computing Strategies in Opportunistic Computational Grids"**, the XXVIII Brazilian Symposium on Computer Networks and Distributed Systems.

2008 **Honourable Mention for the work ''Analysis of Classification and Clustering Algorithms in the Discovery and Prediction of the Behavior of Parallel Tasks''**, the 16th Scientific Initiation Seminar, Pontifical Catholic University of Minas Gerais.

2007 **Honourable Mention for the article "Technique for Characterization of Workload of Parallel Machines to Extract Information Used by a Reconfigurable Task Scheduler",** Scientific Initiation Papers Competition, the VIII Symposium on Computer Systems (WSCAD-CSS). Brazilian Computer Society.

2007 **Honourable Mention for the work ''Proposal, Implementation and Evaluation of a Workload Characterization Technique for Parallel Machines for the Extraction of Information Used by a Scheduler'',** the 15th Scientific Initiation Seminar, Pontifical Catholic University of Minas Gerais.

2006 **Honourable Mention for the work ''Advancement and Exclusion: Two Faces of the Digital Age, A Sociotechnical Analysis of TIs''**, the 14th Scientific Initiation Seminar, Pontifical Catholic University of Minas Gerais.

Academic Awards

2021 **Honoured Professor award**, granted by students at their commencement ceremony. Information System Program. The Pontifical Catholic University of Minas - Contagem.

2020 **Honoured Professor award**, granted by students at their commencement ceremony. Information System Program. Pontifical Catholic University of Minas - Barreiro.

2019 **Honoured Professor award**, granted by students at their commencement ceremony. Information System Program. Pontifical Catholic University of Minas - Barreiro.

2019 **Outstanding Teaching Performance**, granted by Pontifical Catholic University of Minas Gerais

2018 **Honoured Professor award**, granted by students at their commencement ceremony. Information System Program. The Pontifical Catholic University of Minas - Contagem.

2018 **Outstanding Teaching Performance**, granted by Pontifical Catholic University of Minas Gerais

2011 **Summa cum laude: Master's dissertation approved with distinction,** Graduate Program in Computer Science, Center for Electrical Engineering and Informatics. Federal University of Campina Grande.

2008 **Summa cum laude: Second-best academic performance throughout the Bachelor's Degree in Information Systems**, Pontifical Catholic University of Minas Gerais (PUC Minas)

Scientific Impact (data from May 2023)

- [Google Scholar](#): total citations 936 • h-index 9 • i10-index 9.
- [Scopus](#): total citations 100 • h-index 5
- [Web of Science](#): total citations 45 • h-index 4

Peer-reviewed Conference and Journal Publications *[Published in English]*

[1] Ramos, H.; Fonseca, M.; <u>Ponciano, Lesandro</u>. **Modeling and Evaluating Personas with Software Explainability Requirements.** In *VII Iberoamerican Workshop on Human-Computer Interaction*. 2021. DOI: [10.1007/978-3-030-92325-9_11](10.1007/978-3-030-92325-9_11)
Full-paper

[2] Nelson, M. A; <u>Ponciano, Lesandro</u>, "**Experiences and insights from using Github Classroom to support Project-Based Course**s". In 2021 *Third International Workshop on Software Engineering Education for the Next Generation (SEENG)* at ICSE-JSEET. 2021. pp. 31-35. IEEE. DOI: 10.1109/SEENG53126.2021.00013
Full-paper

[3] PILAND, N.; VARESE, M.; SOACHA, K.; <u>Ponciano, Lesandro</u>; CASTANEDA, A.; ALVAREZ, H. G.; CUEVA, R.; DONOFRIO, G.; ESPITIA, J. E.; JURADO, C.; KOVACH, A.; LUIS, C.; MALDONADO, W.; CALLEJAS, S. M.; PIERA, J.; PLOS, A.; RESTREPO, J. F; SANCHEZ, M.; SANDOVAL, M. J.; TORRES, D.; TORRICO, O.; WALLACE, R. B. **Citizen science from the Iberoamerican perspective: an overview, and insights by the RICAP network.** In: European Citizen Citizen Science Association Conference (ECSA Conference 2020), 2020, Trieste. DOI: 10.5281/zenodo.4019060
Poster

[4] de Macêdo Morais, L. A.; Andrade, N.; de Sousa, D. M. C.; <u>Ponciano, Lesandro</u>. **Defamiliarization, representation granularity, and user experience: A qualitative study with two situated visualizations**. In *2019 IEEE Pacific Visualization Symposium (PacificVis)*. 2019, pp. 92-101. IEEE. DOI: 10.1109/PacificVis.2019.00019
Full-paper

[5] <u>Ponciano, Lesandro</u>; Pereira, Thiago Emmanuel. "**Characterising volunteers' task execution patterns across projects on multi-project citizen science platforms.**" *Proceedings of the 18th Brazilian Symposium on Human Factors in Computing Systems*. 2019. pp. 1-11. ACM. DOI: [10.1145/3357155.3358441](10.1145/3357155.3358441)
Full-paper

[6] <u>Ponciano, Lesandro</u>. **HCI Support Card: Creating and Using a Support Card for Education in Human-Computer Interaction**. In: Workshop on HCI Education, *Extended Proceedings of the 18th Brazilian Symposium on Human Factors in Computing Systems*. Porto Alegre, Brasil: SBC, 2019. pp. 106-111. DOI: [10.5753/ihc.2019.8409](10.5753/ihc.2019.8409)
Full-paper

[7] <u>Ponciano, Lesandro</u>; Brasileiro, Francisco. "**Agreement-based credibility assessment and task replication in human computation systems.**" *Future Generation Computer Systems,* 87 (2018): 159-170. DOI: 10.1016/j.future.2018.05.028
Full-paper

[8] <u>Ponciano, Lesandro</u>; Barbosa, Pedro; Brasileiro, Francisco; Brito, Andrey; Andrade, Nazareno. "**Designing for Pragmatists and Fundamentalists: Privacy Concerns and Attitudes on the Internet of Things.**" *Proceedings of the XVI Brazilian Symposium on Human Factors in Computing Systems*. 2017. pp. 1-10. ACM. DOI:[10.1145/3160504.3160545](10.1145/3160504.3160545)
Full-paper

[9] Eitzel, M.V., Cappadonna, J.L., Santos-Lang, C., Duerr, R.E., Virapongse, A., West, S.E., Kyba, C.C.M., Bowser, A., Cooper, C.B., Sforzi, A., Metcalfe, A.N., Harris, E.S., Thiel, M., Haklay, M., <u>Ponciano, Lesandro</u>., Roche, J., Ceccaroni, L., Shilling, F.M., Dörler, D., Heigl, F., Kiessling, T., Davis, B.Y. and Jiang, Q., 2017. "**Citizen Science Terminology Matters: Exploring Key Terms**". *Citizen Science: Theory and Practice*, 2(1), p.1. DOI: 10.5334/cstp.96
Full-paper

[10] <u>Ponciano, Lesandro</u>; Brasileiro, Francisco; Simpson, Robert; Smith, Arfon. "**Volunteers' Engagement in Human Computation for Astronomy Projects**". *Computing in Science & Engineering*, v. 16, p. 52-59, 2014. DOI: 10.1109/MCSE.2014.4
Full-paper

[11] <u>Ponciano, Lesandro</u>; Brasileiro, Francisco. "**Finding Volunteers' Engagement Profiles in Human Computation for Citizen Science Projects**". *Human Computation*, v. 1, n. 1, p. 245-264, 2014. DOI: [10.15346/hc.v1i2.12](10.15346/hc.v1i2.12)
Full-paper

[12] <u>Ponciano, Lesandro</u>; Brasileiro, Francisco; Andrade, Nazareno; Sampaio, Lívia. "**Considering Human Aspects on Strategies for Designing and Managing Distributed Human Computation**". *Journal of Internet Services and Applications*, v. 5, p. 1-28, 2014.DOI: [10.1186/s13174-014-0010-4](10.1186/s13174-014-0010-4)
Full-paper

[13] <u>Ponciano, Lesandro</u>; Brasileiro, Francisco. "**Assessing Green Strategies in Peer-to-Peer Opportunistic Grids**". *Journal of Grid Computing*, v. 11, p. 129-148, 2013. DOI: [10.1007/s10723-012-9218-3](10.1007/s10723-012-9218-3)
Full-paper

[14] <u>PONCIANO, Lesandro</u>; Andrade, Nazareno; Brasileiro, Francisco. **BitTorrent traffic from a caching perspective.** Journal of the Brazilian Computer Society, v. 19, p. 475-491, 2013. DOI: [10.1007/s13173-013-0112-z](10.1007/s13173-013-0112-z)
Full-paper

[15] <u>PONCIANO, Lesandro</u>; Brasileiro, Francisco; Gadelha, Guilherme. **Task Redundancy Strategy Based on Volunteers' Credibility for Volunteer Thinking Projects**. In: AAAI Conference on Human Computation and Crowdsourcing, 2013, Palm Springs. p. 60-61.
Abstract

[16]	Ponciano, Lesandro; Brito, Andrey; Sampaio, Lívia; Brasileiro, Francisco. **Energy-Efficient Computing through Productivity-Aware Frequency Scaling**. In: 2012 International Conference on Cloud and Green Computing (CGC), 2012, Xiangtan. 2012. p. 191-198. DOI: 10.1109/CGC.2012.59	Full-paper
[17]	Alves, Luiz; Maciel, Matheus; Ponciano, Lesandro; Brito, Andrey. **Assessing the impact of the social network on marking photos as favorites in Flickr**. In: 18th Brazilian Symposium on Multimedia and the Web, 2012, São Paulo/SP. New York: ACM Press. p. 79-82. DOI: 10.1145/2382636.2382655	Full-paper
[18]	Ponciano, Lesandro; Brasileiro, Francisco. **On the impact of energy-saving strategies in opportunistic grids.** In: Energy Efficient Grids, Clouds and Clusters Workshop (E2GC2 2010), 2010, Brussels. 11th ACM/IEEE International Conference on Grid Computing (Grid 2010), 2010. v. 1. p. 282-289. DOI: 10.1109/GRID.2010.5698003	Full-paper

Peer-reviewed Conference and Journal Publications *[Published in Portuguese]*

[1]	LOUZADA, HENRIQUE; CHAVES, GABRIEL; Ponciano, Lesandro. **Exploring user profiles based on their explainability requirements in interactive systems**. In: IHC '20: XIX Brazilian Symposium on Human Factors in Computing Systems, 2020, Diamantina Brazil. New York: ACM, 2020. p. 1-6. DOI: 10.1145/3424953.3426545	Full-paper
[2]	Ponciano, Lesandro. "**Structured Debate: A Pedagogical Strategy for Teaching and Learning Human Values in Human-Computer Interaction**." (Portuguese: Debate Estruturado: Uma Estratégia Pedagógica para Ensino e Aprendizagem de Valores Humanos em Interação Humano-Computador). In: Workshop on HCI Education, 2018. Anais Estendidos do XVII Simpósio Brasileiro de Fatores Humanos em Sistemas Computacionais (IHC). DOI: 10.5753/ihc.2018.4209	Full-paper
[3]	VALGAS, A.; CARMO, F.; Ponciano, Lesandro; GOES, L. "**Analysis of Popularity, Visibility and Activity of Different Types of Socialbots on Twitter Social Network**" (Portuguese: Análise da Popularidade, Visibilidade e Atividade de Diferentes Tipos de Robôs na Rede Social Twitter). In: XIV Simpósio Brasileiro de Sistemas Colaborativos, 2017, São Paulo. XXXVII Congresso da Sociedade Brasileira de Computação. Porto Alegre: Sociedade Brasileira de Computação, 2017. v. 1. p. 1342-1355. DOI: 10.5753/sbsc.2017.9958	Full-paper
[4]	RAMOS, S. L. ; Góes, Luiz Fabrício; Ponciano, Lesandro; FRANCA, C.; MORAIS, H. . "**Assessing Players' Perception of Hearthstone Digital Card Game Combo Creativity**" (Portuguese: Avaliação da Percepção de Jogadores sobre a Criatividade de Combos do Jogo Digital de Cartas Hearthstone). In: Simpósio Brasileiro de Jogos e Entretenimento Digital (SBGames), Porto Alegre: SBC, 2016. p. 190-193.	Short-paper
[5]	Ponciano, Lesandro; Brasileiro, Francisco; Gadelha, Guilherme; Furtado, Adabriand. **Adaptive Task Replication Strategy for Human Computation**. In: 2014 Brazilian Symposium on Computer Networks and Distributed Systems (SBRC), 2014, Florianopolis. p. 249-257. DOI: 10.1109/SBRC.2014.30	Full-paper
[6]	Oliveira, Jeymisson; Ponciano, Lesandro; Andrade, Nazareno; Brasileiro, Francisco. "**Strategies for obtaining a maximum item in Human Computation**" (Portuguese: Estratégias de obtenção de um item máximo em Computação por Humanos). In: XXXI Simpósio Brasileiro de Redes de Computadores e Sistemas Distribuídos (SBRC 2013), 2013, Brasília. Porto Alegre: SBC, 2013. p. 253-266.	Full-paper
[7]	ARAÚJO, E. C.; Gaudencio, Matheus; Menezes, Andrey; Ferreira, Iury; Ribeiro, Iara; Fagner, Alberto; Ponciano, Lesandro; Morais, Fábio; Guerrero, Dalton; Figueiredo, Jorge. "**The Role of Study Habits in Student Programming Performance**" (Portuguese: O papel do hábito de estudo no desempenho do aluno de programação). In: Workshop sobre Educação em Computação (WEI), 2013, Maceió. Congresso da Sociedade Brasileira da Computação (CSBC). Porto Alegre: Sociedade Brasileira da Computação, 2013. p. 730-738.	Full-paper
[8]	Ponciano, Lesandro; Santana, Jaindson; Carvalho, Marcus; Gaudêncio, Matheus; Brasileiro, Francisco. "**Analysis of Green Computing Strategies in Opportunistic Computational Grids**" (Portuguese: Análise de Estratégias de Computação Verde em Grades Computacionais Oportunistas). In: XXVIII Simpósio Brasileiro de Redes de Computadores (SBRC), 2010, Gramado. Porto Alegre, Brasil: SBC, 2010. v. 1. p. 307-320.	Full-paper
[9]	Ponciano, Lesandro; Brasileiro, Francisco; Santana, Jaindson; Carvalho, Marcus; Gaudêncio, Matheus. "**Using Standby and Hibernate Strategies to Save Energy on Opportunistic Computational Grids.**" (Portuguese: Usando as Estratégias Sobreaviso e Hibernação para Economizar Energia em Grades Computacionais Oportunistas). Revista Brasileira de Redes de Computadores e Sistemas Distribuídos, v. 3, p. 9-20, 2010.	Full-paper

Scientific Journal Activities

- 2022, reviewer for **PeerJ** journal
- 2022, reviewer for **IEEE Transactions on Cloud Computing** journal
- 2021, reviewer for **Frontiers in Psychology** journal
- 2021, reviewer for **Frontiers in Ecology and Evolution** journal
- 2019, reviewer for **SBC Journal on 3D Interactive Systems** journal
- 2014, reviewer for **IEEE Transactions on Human-Machine Systems** journal
- 2015-2018, reviewer for **Journal of Science Communication**
- 2015-2016, reviewer for **Human Computation** journal
- 2013-2016, reviewer for **IEEE Computing in Science & Engineering** journal

Scientific Society and Association Activities

- Since 2017, member of the **Brazilian Computer Society** (SBC), Brazil.
- Since 2019, member of the **Brazilian Society for the Advancement of Science** (SBPC), Brazil.
- Since 2019, member of the **Iberoamerican Network of Participatory Science** (RICAP), Colombia.
- From 2015 until 2020, member of the **Citizen Science Association** (CSA), United States.

Scientific Conference Activities

Technical Program Committee
- 2021-2022: **ACM International Conference on Supporting Group Work (GROUP).**
- 2021**: Ibero-American Conference on Human-Computer Interaction.**
- 2018 - 2021: **Brazilian Symposium on Human Factors in Computer Systems (IHC)**.
- 2017-2021: **Brazilian Symposium on Collaborative Systems (SBSC)**.
- 2021: **Brazilian Symposium on Computer Education (EduComp)**.
- 2020: **Contest for Scientific Initiation Papers in Software Engineering (CTIC-ES) o**f the Brazilian Symposium on Software Engineering (SBES).

External Reviewer
- 2022: **ACM CHI Conference**. Case study papers.
- 2019-2020: **ACM CHI Conference**. Full Papers.
- 2014: **IEEE International Conference on Distributed Computing Systems** (ICDCS)
- 2011: **Workshop on P2P, Dynamic, Social and Content Oriented Networks (SBRC - Wp2p+)**
- 2011: **Symposium on Computer Systems (WSCAD-SSC)**
- 2011: **Scientific Initiation Workshop in Computer Architecture and High-Performance Computing (WSCAD-WIC)**

Attendee
- 2021 - International Conference on Discovery Science - Online
- 2021 - Brazilian Symposium on Computer Education - Online
- 2020 - European Citizen Science Conference - Online
- 2020 - Brazilian Symposium on Human Factors in Computing Systems - Online
- 2019 - Brazilian National Science and Technology Week - Ponte Nova/Brazil
- 2018 - Brazilian Symposium on Human Factors in Computing Systems - Belém/Brazil
- 2017 - Citizen Science Association Conference - Twin Cities/USA
- 2017 - Brazilian Symposium on Human Factors in Computing Systems - Joinville/Brazil
- 2017 - Congress of the Brazilian Computer Society - São Paulo/Brazil
- 2014 - IEEE International Conference on eScience - São Paulo/Brazil
- 2014 - Brazilian Symposium on Computer Networks and Distributed Systems - Florianópolis/Brazil
- 2013 - AAAI Conference on Human Computation and Crowdsourcing - Palm Spring/ USA
- 2012 - Congress of the Brazilian Computer Society - Curitiba/Brazil
- 2010 - IEEE/ACM International Conference on Grid Computing - Brussels/Belgium
- 2010 - Brazilian Symposium on Computer Networks and Distributed Systems - Gramado/Brazil
- 2007 - IEEE International Symposium on Computer Architecture and High-Performance Computing - Gramado/Brazil

Teaching Activities

Course	Duration	Frequency/year	Program	University
Human-Computer Interaction	68 hours over 4 months	Semiannually from 2016 until 2021	Software Engineering	PUC Minas
Introduction to Informatics Research	34 hours over 4 months	Semiannually from 2020 until 2021	Software Engineering	PUC Minas
Software Testing	68 hours over 4 months	Semiannually from 2020 until 2021	Software Engineering	PUC Minas
Requirements Engineering	68 hours over 4 months	Semiannually from 2017 until 2019	Information System	PUC Minas
Software Quality	68 hours over 4 months	Semiannually from 2017 until 2020	Information System	PUC Minas
Operating Systems	68 hours over 4 months	Semiannually from 2017 until 2021	Software Engineering	PUC Minas
Information Systems Design	68 hours over 4 months	2019	Information System	PUC Minas
Distributed Application Development	68 hours over 4 months	2019	Information System	PUC Minas
Computer Architecture	68 hours over 4 months	2017	Computer Science	PUC Minas
Computer Programming	68 hours over 4 months	2016	Electrical Engineering	PUC Minas
Algorithms and Data Structure	68 hours over 4 months	2016	Information System	PUC Minas

Plus sporadic 68 hours courses: **Information Systems Design** (2019).

Since 2020, Lesandro Ponciano has been certified as a **GitHub Campus Advisor**, a program part of GitHub Education (https://education.github.com/teachers/advisors).

Selected Online Profiles and Resources

Github	https://github.com/lesandrop
Google Scholar	https://scholar.google.com.br/citations?user=KS9I4P0AAAAJ
Semantic Scholar profile	https://www.semanticscholar.org/author/Lesandro-Ponciano/2034958
Scopus profile	https://www.scopus.com/authid/detail.uri?authorId=36975953000
ORCID	https://orcid.org/0000-0002-5724-0094