

Lesandro Ponciano

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Web Page: <https://lesandrop.github.io/site/>

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

B.Sc. in Information Systems (2005 - 2008) • Pontifical Catholic University of Minas Gerais, Brazil

- Grade Point Average: 8.9/10.0

Work Experiences

Researcher (01/2022 - current) • 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 - “extended 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)
- Supervisor: Andrey Brito, andrey@computacao.ufcg.edu.br
- 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
- Supervisor: Nazareno Andrade, nazareno@computacao.ufcg.edu.br
- Technical skills: R, Python, Data Visualization, Statistics

Scientific Awards

- 2021** **Best reviewers of the 1st Brazilian Symposium on Computer Education (EduComp)**, Brazilian Computer Society.
- 2020** **Honorable 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.
- 2018** **Honorable 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** **Honorable Mention for the paper "Analysis of Green Computing Strategies in Opportunistic Computational Grids"**, the XXVIII Brazilian Symposium on Computer Networks and Distributed Systems.
- 2008** **Honorable 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** **Honorable 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** **Honorable 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** **Honorable 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** **Honored Professor award**, granted by students at their commencement ceremony. Information System Program. The Pontifical Catholic University of Minas - Contagem.
- 2020** **Honored Professor award**, granted by students at their commencement ceremony. Information System Program. Pontifical Catholic University of Minas - Barreiro.
- 2019** **Honored 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** **Honored 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
- 2008** **Master's dissertation approved with distinction**, Graduate Program in Computer Science, Center for Electrical Engineering and Informatics. Federal University of Campina Grande.
- 2008** **Silver medal for the second-best academic performance throughout the Bachelor's Degree in Information Systems**, Pontifical Catholic University of Minas Gerais (PUC Minas)

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

- [1] Ramos, H.; Fonseca, M.; Ponciano, Lesandro. **Modeling and Evaluating Personas with Software Explainability Requirements**. In *VII Iberoamerican Workshop on Human-Computer Interaction*. 2021. https://doi.org/10.1007/978-3-030-92325-9_11 Full-paper
- [2] Nelson, M. A; Ponciano, Lesandro, **"Experiences and insights from using Github Classroom to support Project-Based Courses"**. 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](https://doi.org/10.1109/SEENG53126.2021.00013) Full-paper

- [3] PILAND, N.; VARESE, M.; SOACHA, K.; Ponciano, Lesandro; 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 Science Association Conference (ECSA Conference 2020), 2020, Trieste. DOI: [10.5281/zenodo.4019060](https://doi.org/10.5281/zenodo.4019060) Poster
- [4] de Macêdo Morais, L. A.; Andrade, N.; de Sousa, D. M. C.; Ponciano, Lesandro. **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](https://doi.org/10.1109/PacificVis.2019.00019) Full-paper
- [5] Ponciano, Lesandro; 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](https://doi.org/10.1145/3357155.3358441) Full-paper
- [6] Ponciano, Lesandro. **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](https://doi.org/10.5753/ihc.2019.8409) Full-paper
- [7] Ponciano, Lesandro; 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](https://doi.org/10.1016/j.future.2018.05.028) Full-paper
- [8] Ponciano, Lesandro; 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](https://doi.org/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., Ponciano, Lesandro, 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](https://doi.org/10.5334/cstp.96) Full-paper
- [10] Ponciano, Lesandro; 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](https://doi.org/10.1109/MCSE.2014.4) Full-paper
- [11] Ponciano, Lesandro; 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](https://doi.org/10.15346/hc.v1i2.12) Full-paper
- [12] Ponciano, Lesandro; Brasileiro, Francisco; Andrade, Nazareno; Sampaio, Livia. **"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](https://doi.org/10.1186/s13174-014-0010-4) Full-paper
- [13] Ponciano, Lesandro; 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](https://doi.org/10.1007/s10723-012-9218-3) Full-paper
- [14] PONCIANO, Lesandro; 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](https://doi.org/10.1007/s13173-013-0112-z) Full-paper
- [15] PONCIANO, Lesandro; 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, Livia; 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](https://doi.org/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](https://doi.org/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, Bruxelas. 11th ACM/IEEE International Conference on Grid Computing (Grid 2010), 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](https://doi.org/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](https://doi.org/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](https://doi.org/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](https://doi.org/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; Moraes, 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, Jaíndson; 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, Jaíndson; 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

- Since 2013, reviewer for **IEEE Computing in Science & Engineering** journal
- Since 2014, reviewer for **IEEE Transactions on Human-Machine Systems** journal
- Since 2014, reviewer for **Human Computation** journal
- Since 2019, reviewer for **SBC Journal on 3D Interactive Systems** journal
- Since 2021, reviewer for **Frontiers in Psychology** journal
- Since 2021, reviewer for **Frontiers in Ecology and Evolution** journal

Scientific Society and Association Activities

- Since 2015, member of the **Citizen Science Association** (CSA), United States.
- 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.

Scientific Conference Activities

- Program Committee Member
 - **ACM International Conference on Supporting Group Work (GROUP)**. 2021.
 - **VII Ibero-American Conference on Human-Computer Interaction**. 2021.
 - **XX Brazilian Symposium on Human Factors in Computer Systems**. 2021.
 - **Brazilian Symposium on Collaborative Systems (SBSC)**. 2021.
 - **I Brazilian Symposium on Computer Education (EduComp)**. 2021. .
 - **I Contest for Scientific Initiation Papers in Software Engineering (CTIC-ES)** of the Brazilian Symposium on Software Engineering (SBES). 2020.
 - **XIX Brazilian Symposium on Human Factors in Computer Systems (IHC)**. 2020.
 - **XVIII Brazilian Symposium on Human Factors in Computer Systems (IHC)**. 2019.
 - **Brazilian Symposium on Collaborative Systems (SBSC)**. 2019.
 - **XVII Brazilian Symposium on Human Factors in Computer Systems (IHC)**. 2018.
 - **XIV Brazilian Symposium on Collaborative Systems (SBSC)**. 2017.
- External reviewer
 - **ACM CHI 2020 Conference**. 2019.
 - **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)**. 2011.

Scientific Event Participations

2021	24th 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

<u>Course</u>	<u>Duration</u>	<u>Frequency/year</u>	<u>Program</u>	<u>University</u>
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

Since 2020, Lesandro Ponciano is certified as a **GitHub Campus Advisor**, which is a program part of the GitHub Education (<https://education.github.com/teachers/advisors>).
