Thiago Cerqueira de Jesus — Curriculum Vitae

E-mail: jesus@fe.up.pt
Website: https://tcjesus.github.io/
Scholar: https://scholar.google.com/citations?user=3psJAQoAAAAJ
ORCID: https://orcid.org/0000-0001-5299-6856
Sigarra: https://sigarra.up.pt/feup/pt/func_geral.formview?p_codigo=598485
CV Lattes: http://lattes.cnpq.br/1846614285668988

Resume: Researcher, currently at Faculty Engineering of University of Porto (FEUP) enrolled at the 4.5-million-euro Horizon-EU project EU-DREAM. Professor at the State University of Feira de Santana – UEFS (2010 to 2024), lastly as Associate Professor, acting as researcher and main regent of curricular components in Computer Engineering, especially Digital Systems and Computers Architecture. PhD in Electrical and Computer Engineering (***CUM LAUDE***) at FEUP. He has participated in several R&D projects and has received important grants in both Brazil and Portugal. Author, co-author and reviewer of some high impact journals and international conferences. He had coordinated the Advanced Applications and Networks Lab. (LARA) and the Embedded Systems and Microcontrollers Lab. (LASE) at UEFS. His expertise and research interests are in the areas of next-generation networking, Internet of Things, smart city infrastructure, reliable distributed sensor systems, control of energy management systems, automation of digital services.

Degrees

1. PhD (*cum laude*), Faculty Engineering of University of Porto (FEUP), Portugal (09/2021)
2. MsC, Federal University of Rio de Janeiro (UFRJ/COPPE), Brazil (02/2011)
3. BSc (5-year), State University of Feira de Santana (UEFS), Brazil (07/2008)

Scholarships

1. Erasmus+ (2025) – Staff Mobility to Aalborg University, Denmark
2. Posdoc (2025-2026) – National Council for Scientific and Technological Development (CNPq)
3. PhD (2017-2021) – Norte Portugal Regional Coordination and Development Commission (CCDR-N) / Foundation for Science and Technology (FCT)
4. Master (2008-2010) – National Council for Scientific and Technological Development (CNPq)

Expertise Topics

1. Wireless (Visual) Sensor Networks, IoT, Smart Cities
2. Emergency Management Systems: Detection, Mitigation and Energy Management
3. Control of Energy Management Systems
4. Embedded Systems, Computer Architectures

Professional Experience

1. Researcher – Faculty Engineering of University of Porto (FEUP), Portugal (2024 to present)
2. Associate Professor (Computer Engineering) - State University of Feira de Santana (UEFS), Brazil (2022 to 2024)
3. Assistant Professor (Computer Engineering) - UEFS, Brazil (2011 to 2022)
4. Teaching Assistant (Computer Engineering) - UEFS, Brazil (2010 to 2011)
5. Software Developer - FUNDAÇÃO COPPETEC, Brazil (2008 to 2009)
6. Software Developer - TOTAL INFORMÁTICA LTDA, Brazil (2007 to 2008)

Articles published in English in indexed journals (SCOPUS or ISI), as the first author

1. (Q1) Jesus, Thiago C.; PORTUGAL, PAULO ; COSTA, DANIEL G. ; VASQUES, FRANCISCO . Reliability and Detectability of Emergency Management Systems in Smart Cities under Common Cause Failures. **SENSORS**, v. 24, p. 2955, **2024**. [http://dx.doi.org/10.3390/s24092955]
   Author Contributions: Conceptualization, methodology, formal analysis, data curation, writing.

2. (Q1) Jesus, Thiago C.; COSTA, DANIEL G. ; PORTUGAL, PAULO ; VASQUES, FRANCISCO . A Survey on Monitoring Quality Assessment for Wireless Visual Sensor Networks. **Future Internet**, v. 14, p. 213, **2022**. [http://dx.doi.org/10.3390/fi14070213]
   Author Contributions: Conceptualization, methodology, formal analysis, data curation, writing.

3. (Q1) Jesus, Thiago C.; PORTUGAL, PAULO ; COSTA, DANIEL G. ; VASQUES, FRANCISCO . A Comprehensive Dependability Model for QoM-Aware Industrial WSN When Performing Visual Area Coverage in Occluded Scenarios. **SENSORS**, v. 20, p. 6542, **2020**. [http://dx.doi.org/10.3390/s20226542]
   Author Contributions: Conceptualization, methodology, formal analysis, data curation, writing.

4. (Q1) Jesus, Thiago C.; COSTA, DANIEL G. ; PORTUGAL, PAULO ; VASQUES, FRANCISCO . FoV-Based Quality Assessment and Optimization for Area Coverage in Wireless Visual Sensor Networks. **IEEE Access**, v. 8, p. 109568-109580, **2020**. [http://dx.doi.org/10.1109/access.2020.3002206]
   Author Contributions: Conceptualization, methodology, formal analysis, data curation, writing.

5. (Q1) Jesus, Thiago C.; COSTA, DANIEL G. ; PORTUGAL, PAULO ; VASQUES, FRANCISCO ; AGUIAR, ANA . Modelling Coverage Failures Caused by Mobile Obstacles for the Selection of Faultless Visual Nodes in Wireless Sensor Networks. **IEEE Access**, v. 8, p. 41537-41550, **2020**. [http://dx.doi.org/10.1109/access.2020.2977173]
   Author Contributions: Conceptualization, methodology, formal analysis, data curation, writing.

6. (Q1) JESUS, THIAGO; PORTUGAL, PAULO ; VASQUES, FRANCISCO ; COSTA, DANIEL . Automated Methodology for Dependability Evaluation of Wireless Visual Sensor Networks. **SENSORS**, v. 18, p. 2629, **2018**. [http://dx.doi.org/10.3390/s18082629]
   Author Contributions: Conceptualization, methodology, formal analysis, data curation, writing.

Articles published in English in indexed journals (SCOPUS ou ISI), as co-author

1. (Q1) BITTENCOURT, JOÃO CARLOS N. ; JESUS, THIAGO C. ; PEIXOTO, JOÃO PAULO JUST ; COSTA, DANIEL G. The Road to Intelligent Cities. **SMART CITIES**, v. 8, n. 3, p. 77, **2025**. [https://doi.org/10.3390/smartcities8030077]
   Author Contributions: Conceptualization, formal analysis and writing.

2. BITTENCOURT, JOÃO CARLOS N. ; FLORES, THOMMAS K. S. ; JESUS, THIAGO C. ; COSTA, DANIEL G. On the Role of AI in Building Generative Urban Intelligence. **PREPRINT (Version 1), Research Square**, 24 Jul. **2025**. [https://doi.org/10.21203/rs.3.rs-7131966/v1]
   Author Contributions: Conceptualization, formal analysis and writing.

3. (Q1) PEIXOTO, JOÃO PAULO JUST ; BITTENCOURT, JOÃO CARLOS N. ; Jesus, Thiago C. ; COSTA, DANIEL G. ; PORTUGAL, PAULO ; VASQUES, FRANCISCO. Exploiting geospatial data of connectivity and urban infrastructure for efficient positioning of emergency detection units in smart cities. **COMPUTERS ENVIRONMENT AND URBAN SYSTEMS**, v. 107, p. 102054, **2024**. [http://dx.doi.org/10.1016/j.compenvurbsys.2023.102054]
   Author Contributions: Conceptualization, methodology, formal analysis, data curation, writing.

4. (Q1) COSTA, DANIEL G. ; BITTENCOURT, JOÃO CARLOS N. ; OLIVEIRA, FRANKLIN ; PEIXOTO, JOÃO PAULO JUST ; Jesus, Thiago C. . Achieving Sustainable Smart Cities through Geospatial Data-Driven Approaches. **Sustainability**, v. 16, p. 640, **2024**. [http://dx.doi.org/10.3390/su16020640]
   Author Contributions: Conceptualization, methodology, formal analysis, data curation, writing.
5. (Q1) COSTA, DANIEL G. ; PEIXOTO, JOAO PAULO J. ; Jesus, Thiago C. ; PORTUGAL, PAULO ; VASQUES, FRANCISCO ; RANGEL, ELIVELTON ; PEIXOTO, MAYCON . A Survey of Emergencies Management Systems in Smart Cities. **IEEE Access**, v. x, p. 1-1, **2022**. [http://dx.doi.org/10.1109/ACCESS.2022.3180033]
   Author Contributions: Conceptualization, methodology, formal analysis, data curation, writing.

6. (Q1) MOREIRA, M. V. ; JESUS, T. C. ; BASILIO, J. C. . Polynomial Time Verification of Decentralized Diagnosability of Discrete Event Systems. **IEEE TRANSACTIONS ON AUTOMATIC CONTROL**, v. 56, p. 1679-1684, **2011**. [http://dx.doi.org/10.1109/tac.2011.2124950]
   Author Contributions: Conceptualization, methodology, formal analysis, data curation, writing.

Articles published in English in indexed conferences

1. JESUS, THIAGO C. ; SANTOS, SÉRGIO F. ; COSTA, DANIEL G. ; CATALÃO, JOÃO P. S. Data-Driven Framework for Consumer-Centric Microgrid Positioning in Smart Cities and Communities Towards Digital Urban Transformation. In: 59th Hawaii International Conference on System Sciences (HICSS), Hawaii, 2026, p. 1-10. [Accepted for publication]
   Author Contributions: Conceptualization, methodology, formal analysis, data curation, writing.

2. JESUS, THIAGO C. ; FLORES, THOMMAS ; BITTENCOURT, JOÃO CARLOS N. ; SILVA, IVANOVITCH ; COSTA, DANIEL G. ; CATALÃO, JOÃO P. S. Dependability-Driven Planning of Wireless Sensor Networks for Smart Cities Using Machine Learning. In: 51st IEEE Industrial Electronics Society Conference (IECON2025), 2025, Madrid, 2025. p. 1-6. [Accepted for publication]
   Author Contributions: Conceptualization, methodology, formal analysis, data curation, writing.

3. BARRETO, GABRIEL S. ; JESUS, THIAGO C. ; COSTA, DANIEL G. ; CATALÃO, JOÃO P. S. Quality-aware Sensors Positioning in Smart Cities: Enhancing Coverage in IoT-driven Urban Scenarios. In: 51st IEEE Industrial Electronics Society Conference (IECON2025), 2025, Madrid, 2025. p. 1-6. [Accepted for publication]
   Author Contributions: Conceptualization, methodology, formal analysis, data curation, writing.
4. BITTENCOURT, JOÃO CARLOS N. ; FLORES, THOMMAS K. S. ; JESUS, THIAGO C. ; SILVA, IVANOVITCH ; COSTA, DANIEL G. Embedded AI for Intelligent Wildfire Monitoring: A Multi-Sensor and Vision-Driven Approach. In: 51st IEEE Industrial Electronics Society Conference (IECON2025), 2025, Madrid, 2025. p. 1-6. [Accepted for publication]
   Author Contributions: Conceptualization, formal analysis, writing.

5. PEIXOTO, JOÃO PAULO J. ; BITTENCOURT, JOÃO CARLOS N. ; JESUS, THIAGO C. ; COSTA, DANIEL G. Urban Emergencies in the Age of 15-Minute Cities: Assessing Response Capability to Critical Situations. In: 11th IEEE International Smart Cities Conference (ISC2 2025), 2025, Patras, 2025. p. 1-6. [Accepted for publication]
   Author Contributions: Conceptualization, formal analysis, writing.

6. RIBEIRO ALVES, THIAGO ; PINTO PEREIRA, CLAUDIA ; CERQUEIRA DE JESUS, THIAGO. Litera Braille: Prototyping and Development of Low-Cost Device Based on Braille Typewriter. In: 15th International Conference on Education and New Learning Technologies, 2023, Palma, 2023. p. 5759-5768. [http://dx.doi.org/10.21125/edulearn.2023.1506]
   Author Contributions: Conceptualization, methodology, formal analysis, data curation, writing.

7. Jesus, Thiago C.; COSTA, DANIEL G. ; PORTUGAL, PAULO ; VASQUES, FRANCISCO ; FERREIRA, WAGNER A. . Dependability and Quality-Aware Connectivity in Smart Cities Applications. In: 2023 IEEE International Smart Cities Conference (ISC2), 2023, Bucharest. 2023 IEEE International Smart Cities Conference (ISC2), 2023. p. 1. [http://dx.doi.org/10.1109/isc257844.2023.10293631]
   Author Contributions: Conceptualization, methodology, formal analysis, data curation, writing.

8. DA SILVA, GUSTAVO FALCÃO P. ; COSTA, DANIEL G. ; DE JESUS, THIAGO C. . A Secure OTA Approach For Flexible Operation of Emergency Detection Units in Smart Cities. In: 2023 IEEE International Smart Cities Conference (ISC2), 2023, Bucharest. 2023 IEEE International Smart Cities Conference (ISC2), 2023. p. 01. [http://dx.doi.org/10.1109/isc257844.2023.10293637]
   Author Contributions: Conceptualization, methodology, formal analysis, data curation, writing.

9. COELHO, GUSTAVO A. A. ; Jesus, Thiago C. ; COSTA, DANIEL G. . Urban emergency detection system using hierarchical, collaborative and configurable wireless sensor networks. In: 2023 XIII Brazilian Symposium on Computing Systems Engineering (SBESC), 2023, Porto Alegre. 2023 XIII Brazilian Symposium on Computing Systems Engineering (SBESC), 2023. p. 1. [http://dx.doi.org/10.1109/sbesc60926.2023.10324250]
   Author Contributions: Conceptualization, methodology, formal analysis, data curation, writing.

10. JESUS, T. C.; COSTA, D. G. ; PORTUGAL, PAULO ; VASQUES, F. . A dependability-aware approach for dynamic mobile sink repositioning in smart cities applications. In: 8th IEEE International Smart Cities Conference, 2022, Paphos, Cyprus. Proceedings of the 8th IEEE International Smart Cities Conference, 2022. [http://dx.doi.org/10.1109/ISC255366.2022.9922122]
    Author Contributions: Conceptualization, methodology, formal analysis, data curation, writing.

11. SILVA, G. F. P. ; COSTA, D. G. ; JESUS, T. C. . A Framework for the Development of Reconfigurable Sensors-based Emergencies Detection Units in Smart Cities. In: 8th IEEE International Smart Cities Conference, 2022, Paphos, Cyprus. Proceedings of the 8th IEEE International Smart Cities Conference, 2022. [http://dx.doi.org/10.1109/ISC255366.2022.9922506]
    Author Contributions: Conceptualization, methodology, formal analysis, data curation, writing.
12. Jesus, Thiago C.; COSTA, DANIEL G. ; PORTUGAL, PAULO . Wireless visual sensor networks redeployment based on dependability optimization. In: 2019 IEEE 17th International Conference on Industrial Informatics (INDIN), 2019, Helsinki. 2019 IEEE 17th International Conference on Industrial Informatics (INDIN), 2019. p. 1111. [http://dx.doi.org/10.1109/indin41052.2019.8972128]
    Author Contributions: Conceptualization, methodology, formal analysis, data curation, writing.

13. COSTA, DANIEL G. ; RANGEL, ELIVELTON ; PEIXOTO, JOAO PAULO J. ; Jesus, Thiago C. . An Availability Metric and Optimization Algorithms for Simultaneous Coverage of Targets and Areas by Wireless Visual Sensor Networks. In: 2019 IEEE 17th International Conference on Industrial Informatics (INDIN), 2019, Helsinki. 2019 IEEE 17th International Conference on Industrial Informatics (INDIN), 2019. p. 617. [http://dx.doi.org/10.1109/indin41052.2019.8972176]
    Author Contributions: Conceptualization, methodology, formal analysis, data curation, writing.

14. Jesus, Thiago C.; COSTA, DANIEL G. ; PORTUGAL, PAULO . On the Computing of Area Coverage by Visual Sensor Networks: Assessing Performance of Approximate and Precise Algorithms. In: 2018 IEEE 16th International Conference on Industrial Informatics (INDIN), 2018, Porto. 2018 IEEE 16th International Conference on Industrial Informatics (INDIN), 2018. p. 193. [http://dx.doi.org/10.1109/indin.2018.8471997]
    Author Contributions: Conceptualization, methodology, formal analysis, data curation, writing.

15. MOREIRA, MARCOS V ; JESUS, THIAGO C ; BASILIO, JOAO C . Polynomial time verification of decentralized diagnosability of discrete event systems. In: 2010 American Control Conference (ACC 2010), 2010, Baltimore. Proceedings of the 2010 American Control Conference, 2010. p. 3353. [http://dx.doi.org/10.1109/ACC.2010.5530928]
    Author Contributions: Conceptualization, methodology, formal analysis, data curation, writing.

Technical Reports

1. T. Jesus, F. Ghanavati, S. Turkoglu. "Data Management Plan", Technical Report D9.2, Project EU-DREAM, Horizon Europe. Grant agreement ID:101160614 [https://eu-dream.eu/resources/].

Participation in R&D projects

1. EU-DREAM – Effective Uptake of Digital Services to Repower European Consumers and Communities as Active Participants in Energy Transition and Markets (2024 – 2027): Horizon Europe. Grant agreement ID: 101160614. **Fund**: 4.500.000 €. **Participation**: Collaborator

2. OBSERV – Optimal Barrier Surveillance Evaluation and Reliability: A framework for the evaluation, optimisation, and monitoring of wireless visual sensor networks for barrier coverage in smart cities (2024 – 2026): CONSEPE 124/2024 (Brazil). **Fund**: 3.500 €. **Participation**: **Coordinator**

3. CitySensAlarm – Creating Safer and More Resilient Cities through the Detection and Management of Urban Emergencies: Based on optimised sensor networks (2022 – 2023): Fundação para a Ciência e a Tecnologia (Lisbon, PT) GRANT_NUMBER: EXPL/EEI-COM/1089/2021. **Fund**: 50.000 €. **Participation**: Collaborator

4. Robot Colony – Construction of a Colony of Autonomous Robots for Recognition, Search and Inspection (2011 – 2017): CONSEPE 063/2008 – SECTI-BA (Brazil). **Fund**: 67.200 €. **Participation**: Collaborator

Scientific leadership activities

1. Coordinator of the research project *OBSERV* (2024 – 2026): CONSEPE 124/2024 (Brazil).
2. Coordinator of the Embedded Systems and Microcontrollers Laboratory (LASE/UEFS): 09/2021-07/2024 and 01/2014:01/2017
3. Coordinator of the Advanced Applications and Networks Laboratory (LARA/UEFS): 02/2022-07/2024

Collaborations with international researchers and study periods abroad

1. Erasmus+ Staff Mobility (September/2025), Aalborg University (Denmark): collaborative visit to the IoT Microgrid Living Lab (AAU Energy).
   Activities: technical immersion in infrastructure, data acquisition, and Microgrid's system configuration.
   International researchers (AAU): Juan C. Vasquez, Babak A. Zavar.

2. Collaboration with researchers from Faculty Engineering of University of Porto – FEUP (2017 - present)
   Activities: Articles publication, research projects development.
   International researchers (FEUP): Paulo Portugal, Daniel G. Costa, Francisco Vasques, Ana Aguiar.

3. Study periods abroad: research project visit to FEUP, yielding the journal article "*Exploiting geospatial data of connectivity and urban infrastructure for efficient positioning of emergency detection units in smart cities*". **COMPUTERS ENVIRONMENT AND URBAN SYSTEMS** [Q1] (June-July/2023)

Teaching Experience

1. **Mastering degree**: Postgraduate Program in Computer Science (PGCC/UEFS) at the State University of Feira de Santana
   Disciplines: Computer Systems – PGCC008 (2022 - 2024)

2. **Specialization degree**: Specialisation in Computational Systems (CESiC/UEFS) at the State University of Feira de Santana
   Disciplines: Digital processing (SIC002) (2013 - 2017)

3. **Undergraduate**: Computer Engineering (EComp/UEFS) at the State University of Feira de Santana
   Disciplines: Digital Circuits (TEC401); Computer Architecture (TEC402); Introduction to Hardware (TEC418); Microprocessors and Microcontrollers (TEC440); Embedded Systems (TEC470); Introduction to Electronics (TEC497); Design of Digital Circuits (TEC498); Digital Systems (TEC499); Concurrency and Connectivity (TEC502); Numerical Methods (EXA862) → **(2011 - 2024)**

   Algorithms and Programming I (EXA801); Systems Analysis and Design (EXA811); Database (EXA810); Data Structures (EXA806); Programming II (EXA805) → **(2010 - 2011)**

Academic leadership activities

1. Course Committee of the Specialisation in Computational Systems (CESiC/UEFS): 05/2013–05/2015
2. Course Committee of the Bachelor's in Computer Engineering (ECOMP/UEFS): 03/2015–03/2017 and 11/2021–02/2024
3. Course Committee of the Postgraduate Programme in Computer Science (PGCC/UEFS): 11/2021–Present

Ad-hoc reviewer

1. Wireless Personal Communications (Springer Nature) – 2024 to present
2. Mobile Networks and Applications (Springer Nature) – 2024 to present
3. Smart Cities (MDPI) – 2024 to present
4. Applied Sciences (MDPI) – 2024 to present
5. Sensors (MDPI) – 2020 to present
6. Remote Sensing (MDPI) – 2020 to 2023
7. Telecom (MDPI) – 2020 to present
8. IEEE Access – 2020 to present
9. IEEE Latin America Transactions – 2019 to 2020
10. IEEE Transactions on Automatic Control – 2017 to 2020
11. Systems and Control Letters - 2018

Participation in (inter)national scientific peer review meetings as well as by invitation

1. Implementation of Applications Based on Wireless Sensor Networks - Computing School of Bahia-Sergipe-Alagoas (ERBASE), 2016 – Invitation
2. XIX Brazilian Symposium on Collaborative Systems, 2024 - Participation
3. IEEE International Conference on Industrial Informatics, 2019 - Participation
4. IEEE International Conference on Industrial Informatics, 2018 - Participation
5. XII Brazilian Symposium on Intelligent Automation (SBAI 2015), 2015 - Participation
6. Brazilian Conference on Dynamics, Control and Applications (DINCON 2015), 2015 - Participation
7. XVI Latin American Congress on Automatic Control (CLCA 2014), 2014 - Participation
8. XI Brazilian Symposium on Intelligent Automation (SBAI 2013), 2013 - Participation
9. XI Brazilian Conference on Dynamics, Control and Applications (DINCON 2013), 2013 - Participation
10. XIX Brazilian Congress of Automation (CBA 2012), 2012 - Participation
11. XVIII Brazilian Congress of Automation (CBA 2010), 2010 - Participation
12. V National Seminar on Control and Industrial Automation, 2007 - Participation

Supervising experience

Master dissertations:

1. Quality-aware Sensors Positioning in Smart Cities: Enhancing Coverage in IoT-driven Urban Scenarios, Gabriel Sá Barreto Alves (2025 - Scheduled)
2. Detection of Urban Emergencies Using Hierarchical, Collaborative, and Reconfigurable Wireless Sensor Networks, Gustavo Araújo Álvaro Coelho (2024)

3. Modeling and Development of an Architecture for Reconfiguring Emergency Detection Units in Smart Cities, Gustavo Falcão Paim da Silva (2024)
4. Litera Braille: Development and Analysis of a Low-Cost Device Based on the Braille Typewriter, Thiago Ribeiro Alves (2024)
    - ***Patent Deposit:*** *BR1020240136454 – INPI – Instituto Nacional da Propriedade Industrial*
    - ***Product to the society***

Specialisation Monograph:

1. Development of an Automated Door Opening System Using Bluetooth and RFID for Residential and Commercial Environments, Jonas Bonfim de Omena (2015)

Undergraduate Monograph:

1. Electric Eye: An Online Tool for Automating the Creation of Urban Emergency Management Systems, Ian Zaque Pereira de Jesus dos Santos (2024)
2. Implementation of Image Processing Algorithms for Obstacle Detection and Positioning Using Laser, Pedro Lemos Lourenço (2016)
3. Wireless Sensor Networks for Monitoring Diverse Environments, Filipe Souza Santana (2014)
4. SOLOC: An Android Application Using Crowdsourcing to Assist Public Transportation Users, Raquel Andrade Almeida (2013)
5. Development of a Data Acquisition, Storage, and Publishing System Based on PIMS Systems, Breno Costa Ramos (2012)

Scientific Initiation (Junior Researcher):

1. Modelling and development of full-view barrier coverage in wireless visual sensor networks, Pedro Mendes Oliveira, (2025)
2. Positioning of emergency detection sensors in wireless connectivity networks for smart cities, Pedro Mendes Oliveira, (2024)
3. An online tool for automating the creation of urban emergency detection systems, Ian Zaque Pereira de Jesus dos Santos, (2024)
    - ***2º Best Paper Award:*** *XVIII Scientific Initiation Seminar (UEFS/Brazil)*
4. Modelling and evaluation of barrier coverage quality in wireless visual sensor networks, Carlos Henrique de Oliveira Valadão, (2024)
5. Implementation of data fusion in a wireless sensor network, Jeyel Souza Ferreira, (2017)
6. Implementation of data aggregation in a wireless sensor network, Jeyel Souza Ferreira, (2016)
7. Implementation of data acquisition and communication modules in a heterogeneous WSN, Nathan Almeida Souza, (2016)
8. Evolution of a framework aimed at heterogeneous communication in a WSN, Marcelo Bião Cerqueira, (2016)
9. Construction, optimisation and validation of a distance measurement sensor based on laser using FPGA and integration with the existing robot colony system, Fábio Bispo de Jesus, (2016)
10. Development of a hardware/software framework for data acquisition applications, Nathan Almeida Souza, (2015)
11. Implementation of a data acquisition system with wireless sensor networks for PIMS systems, Marcelo Bião Cerqueira, (2015)
12. Design of a distance measurement sensor based on laser using FPGA, Fábio Bispo de Jesus, (2015).
13. Implementation of routing in wireless sensor networks using the AODV protocol, Arthur Hagnês de Jesus Ferreira, (2015)
14. Development of a sensor network for solarimetric data collection and distribution, Natan Hespanhol dos Santos, (2013)

Participation in evaluation committees

Specialisation Monograph:

1. Automation System for Residential Lighting Based on Open Source Technologies, Mário Lúcio Gomes de Queiroz (2015)
2. OpenSerum - An Open System for Hospital Serum Monitoring, Celianio da Silva Silva (2015)

Undergraduate Monograph:

1. Development of a 3D Printed Prosthetic Myoelectric Hand Driven by DC Actuators, Emanuel de Jesus Lima (2016)
2. A Comparative Analysis of Computational Simulators for Wireless Multimedia Sensor Networks, Moab Rodrigues de Jesus (2015)
3. Analysis and Development of a Temperature Control Mesh Based on a Peltier Module, Sandoval Santos Silva Filho (2014)
4. Implementation of a Geometric Method for Solving the Inverse Kinematics of a Hyper-redundant Manipulator, Marcelo de Miranda Bastos (2014)
5. Wireless Communication Network for Smart Meters, Ezequiel de Oliveira Pereira Netto (2014)
6. Sliding Mode Control of ABS Automotive Brakes, João Gabriel Queiroz de Araújo (2013)
7. Design of Robust Controllers for a Two-Tank System, Tassalon Ferreira da Silva (2013)
8. Design of a Robust and Optimal Controller for an Active Suspension System, Karine Souza de Almeida (2013)
9. Pole Placement Robust Control for a Motor in a Robotic Joint, Vinícius Augusto Bittencourt dos Santos (2013)
10. A Portugol-Assembly Compiler for Microcontrollers, Nils Alexandre Lima Bergsten (2012)
11. Development of Software for Processing Digitised Mammographic Images for the Detection of Microcalcifications, Jaízo Araújo Santos Júnior (2011)
12. Application of Smoothing Algorithms on Image Volumes Using OPENCL, Marcus Vinícius Araújo Martins (2010)

Additional Training

1. Creation of Applications Based on LLMs (2024) - Tomorrow Research and Training Center at the Institute of Computing, Federal University of Bahia (30h)

2. Fundamentals of Intelligent Sensing Platforms for Industry - Embrapii (Brazilian Company for Industrial Research and Innovation) - Virtus Competence Center for Intelligent Hardware for Industry (20h)
    a. Module 1: Introduction to Intelligent Sensing Platforms for Industry (4h)
    b. Module 2: Physical Components of Intelligent Hardware for Industry (4h)
    c. Module 3: Connectivity Components of Intelligent Hardware for Industry (4h)
    d. Module 4: Application Infrastructure of Intelligent Hardware for Industry (4h)
    e. Module 5: Information and Communication Security of Intelligent Hardware for Industry (4h)

3. 5th International Summer School on Industrial Agents - Polytechnic Institute of Bragança, Portugal (2019)
    a. Module 1: Fundamentals in agent-orientation and holonic paradigm (3,5 hours)
    b. Module 2: Practical Exercises - implementation agent-based solutions (3,5 hours)
    c. Module 3: Architectural Design, Deployment and Assessment (3,5 hours)
    d. Module 4: Model-driven Engineering and implementation of field level agents with IEC 61131-3 (3,5 hours)

e. Module 5: AutomationML for data modelling (3,5 hours)
f. Module 6: Agents and IoT technologies (3,5 hours)
g. Module 7: Cyber-security in agent-based systems (3,5 hours)
h. Module 8: Designing and implementing field level agents with IEC 61499 (3,5 hours)
i. Module 9: Systematic literature review (1 hour)
j. Module 10: Practical Development of Secured IoT Applications for Automation (2,5 hours)

Talks

1. Fundamentals of Intelligent Sensing Platforms for Industry (Tutor) - Embrapii (Brazilian Company for Industrial Research and Innovation) - Virtus Competence Center for Intelligent Hardware for Industry, 2024
2. 2016 Implementation of Applications Based on Wireless Sensor Networks - Regional School of Computing Bahia-Sergipe-Alagoas (ERBASE 2016)
3. 2016 I Graduated... Now What? - Computer Engineering Integration Week (XVI Siecomp)
4. 2006 Logistics - Computer Engineering Integration Week (I Siecomp)
5. 2006 Basic Matlab - Mathematics Week (VIII SEMAT)
6. 2005 Advanced Excel - Mathematics Week (VII SEMAT)