LUCAS PEREIRA

RESEARCH FELLOW
ITI, LARSyS, Instituto Superior Técnico

CO-FOUNDER AND DATA SCIENCE LEAD
BrightCuriosity Lda (prsma.com)

CITIZENSHIP
Portugal

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Polo Científico e Tecnológico da Madeira,
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421F-7B0E-8647

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http://orcid.org/0000-0002-9110-8775

GOOGLE SCHOLAR
https://goo.gl/M7Guxq

EDUCATION

PHD IN COMPUTER SCIENCE - 2016
University of Madeira / M-ITI, Portugal

MSC IN COMPUTER SCIENCE - 2011
University of Madeira / M-ITI, Portugal

ENGINEERING DEGREE IN INFORMATICS - 2007
University of Madeira, Portugal

PROFESSIONAL EXPERIENCE

ASSISTANT RESEARCHER, APRIL 2019 - ONGOING
ITI, LARSyS, Instituto Superior Técnico, University of Lisbon

VISITING ASSISTANT PROFESSOR, OCTOBER 2017 - JULY 2019
University of Madeira

POST-DOCTORAL RESEARCHER, JANUARY 2017 - MARCH 2019
Madeira Interactive Technologies Institute (M-ITI)

CO-FOUNDER AND DATA SCIENCE LEAD, JUNE 2015 - ONGOING
BrightCuriosity Lda. (prsma)

INFORMATICS ENGINEER, DECEMBER 2007 - JANUARY 2010
Information Systems and Communications Department
Câmara de Lobos City Hall

LANGUAGES

PORTUGUESE (C2), ENGLISH (C2), SPANISH (B2), FRENCH (A1)

HONOURS AND AWARDS

WORLD TOP 2% HIGHLY CITED RESEARCHER 2021-2023
World's Top 2% Scientists List by Stanford University

WIRES DATA MINING AND KNOWLEDGE DISCOVERY TOP CITED ARTICLES 2020
https://wires.onlinelibrary.wiley.com/doi/10.1002/widm.1265

SCIENTIFIC EMPLOYMENT STIMULUS GRANT, 2019 (TOP 12%)
Portuguese Foundation for Science and Technology

BEST ORAL PRESENTATION, 2018
International NILM Workshop 2018

INDIVIDUAL DOCTORAL GRANT, 2011 - 2015
Portuguese Foundation for Science and Technology

RESEARCH PROJECTS

SUSTAINABLE ENERGY TRANSITIONS IN THE CATERING INDUSTRY (SENCY), 2025 - 2028
FCT, 17115
https://sency.tecnico.ulisboa.pt/
Role: Project PI

AI-INFORMED HOLISTIC EVS INTEGRATION APPROACHES FOR DISTRIBUTION GRIDS (AHEAD), 2024 - 2028
Horizon Europe, GA 101160665
https://horizon-ahead.eu
Role: PI at ITI/LARSyS, WP Leader

SHIFT TO DIRECT CURRENT (SHIFT2DC), 2023 - 2027
Horizon Europe, GA 101136131
https://shift2dc.eu
Role: PI at ITI/LARSyS

ACCURATE FEDERATED LEARNING WITH UNCERTAINTY QUANTIFICATION FOR DER FORECASTING APPLIED TO SMART GRIDS PLANNING AND OPERATION (ALAMO), 2024
FCT, 2022.15771.MIT
https://alamo.tecnico.ulisboa.pt
Role: Project PI

EXPLORING THE HUMAN-WATER-ENERGY NEXUS IN INDUSTRIAL KITCHENS (NEXIK), 2022 - 2023
FCT, EXPL/CCI-COM/1234/2021
https://nexik.tecnico.ulisboa.pt
Role: Project PI

FUTURE INDUSTRIAL KITCHEN (FIK), 2018 - 2019
Madeira 14-20 / FEDER, M1420-01-0247-FEDER-000018
https://futurekitchen.m-iti.org
Role: Researcher, WP Leader

SMART ISLAND ENERGY SYSTEMS (SMILE), 2017 - 2021
Horizon 2020, GA 731249
https://www.h2020smile.eu
Role: PI at prsma.com, WP Leader

SME INSTRUMENT - PHASE 1, 2015 - 2016
Horizon 2020, SME Instrument
Role: Co-Pi at prsma.com

TEACHING

COMMUNICATION AND MULTIMEDIA - UNIVERSITY OF MADEIRA, SPRING 2019
Introduction to multimedia tools, content creation and management. Web accessibility and data privacy protection. Course delivered in Portuguese.

PROGRAMMING PARADIGMS - UNIVERSITY OF MADEIRA, FALL 2017
Introductory programming course to the different engineering and mathematics majors at the the University of Madeira. Course delivered in English and Portuguese.

PHD STUDENTS

ZAKARIA MOSHI (UNIVERSITY OF MADEIRA), 2024 - ONGOING
Thesis: CAHRGE-CITY: Electric Vehicles Charging Infrastructure Planning Considering Cities and Distribution grids Requirements. In co-supervision with Hugo Morais (Técnico Lisboa) and Fábio Mendonça (University of Madeira)

MARCELO FORTE (TÉCNICO LISBOA, UNIVERSITY OF LISBON), 2024 - ONGOING
Thesis: RLAX - Reinforcement Learning for an Adaptive eXperience in electric mobility. In co-supervision with Hugo Morais (Técnico Lisboa)

CATHERINE NGIRWA (UNIVERSITY OF MADEIRA), 2023 - ONGOING
Thesis: Enhanced Tools for User Acceptance Assessment in Smart-Grid Emerging Technologies. In co-supervision with Pedro Campos (University of Madeira)

LUNODZO MWINUKA (TÉCNICO LISBOA, UNIVERSITY OF LISBON), 2023 - ONGOING
Thesis: Large Scale Data Management and Integration in Energy Systems. In co-supervision with Massimo Cafaro (University of Salento) and Hugo Morais (Técnico Lisboa) (Funded by Horizon 2020 - InnoCyPES MSCA ITN)

JOÃO GÓIS (TÉCNICO LISBOA, UNIVERSITY OF LISBON), 2021 - ONGOING
Thesis: On the Relationship Between Similarity Measures and Complexity in Energy Disaggregation (Funded by FCT)

ANTHONY FAUSTINE (TÉCNICO LISBOA, UNIVERSITY OF LISBON), 2021 - ONGOING
Thesis: Towards Robust Machine Learning Algorithms for Future Energy Systems

EDUARDO GOMES (TÉCNICO LISBOA, UNIVERSITY OF LISBON), 2021 - ONGOING
Thesis: MARLEC: Multi-Agent Reinforcement Learning Applications in Energy Communities. In co-supervision with Hugo Morais and Augusto Esteves (Técnico Lisboa) (Funded by FCT)

ONGOING MASTER STUDENTS

RICARDO TAVARES (COMPUTER SCIENCE AND ENGINEERING, TÉCNICO LISBOA, U. LISBON), 2025
Thesis: Predictive Maintenance for Solar Photovoltaic Applications In co-supervision with Hugo Morais (Técnico Lisboa, U. Lisbon)

PAULO SILVA (ELECTRICAL AND COMPUTER ENGINEERING, TÉCNICO LISBOA, U. LISBON), 2024
Thesis: Uncertainty Estimation and Metrics for Federated Learning Forecasting Algorithms Applied to Distributed Energy Resources. In co-supervision with Hugo Morais (Técnico Lisboa, U. Lisbon)

DIOGO MONTEIRO (DATA SCIENCE AND ENGINEERING, TÉCNICO LISBOA, U. LISBON), 2024
Thesis: Federated Learning Forecasting Algorithms Applied to Distributed Energy Resources. In co-supervision with Hugo Morais (Técnico Lisboa, U. Lisbon)

DIOGO RODRIGUES (INFORMATICS ENGINEERING, UNIVERSITY OF MADEIRA), 2024/2025
Thesis: Data Science for Ports (DS4Ports): Muti-level Visualization Tool for Port Digital Twins. In co-supervision with Filipe Quintal (University of Madeira)

TONY GRACES (INFORMATICS ENGINEERING, UNIVERSITY OF MADEIRA), 2024/2025
Thesis: Data Science for Ports (DS4Ports): Data-Driven Modelling of Port Assets. In co-supervision with Filipe Quintal (University of Madeira)

GUSTAVO NASCIMENTO (INFORMATICS ENGINEERING, UNIVERSITY OF MADEIRA), 2024/2025
Thesis: BirdsEView City Dashboard: development of a spatial user interface to visualize EVs and EVSEs at the city level.. In co-supervision with Filipe Quintal (University of Madeira)

LUÍS NUNES (INFORMATICS ENGINEERING, UNIVERSITY OF MADEIRA), 2024/2025
Thesis: ML4Ports – Machine Learning for Ports. In co-supervision with Fábio Mendonça (University of Madeira)

PEDRO RODRIGUES (INFORMATICS ENGINEERING, UNIVERSITY OF MADEIRA), 2024/2025
Thesis: Probabilistic Machine Learning Approaches for Forecasting Load Demand in EVSEs. In co-supervision with Fábio Mendonça (University of Madeira)

GRADUATED MASTER STUDENTS

GONÇALO DE MORAIS (ELECTRICAL AND COMPUTER ENGINEERING, TÉCNICO LISBOA, U. LISBON), 2022-2025
Thesis: Data Monitoring and Disaggregation in Industrial Kitchens. In co-supervision with Hugo Morais (Técnico Lisboa, U. Lisbon)

JONAS DUERIG (INTEGRATED BUILDING SYSTEMS, ETH ZURICH), 2024
Thesis: Quantifying the potential of the demand side flexibility in energy communities. In co-supervision with Diana Neves (Técnico Lisboa, U. Lisbon), and Russell McKenna (ETH Zurich)

TIMON SIEME (ENERGY ENGINEERING AND MANAGEMENT, TÉCNICO LISBOA, U. LISBON), 2023/2024
Thesis: Scenarios generation tool for Social Energy Communities. In co-supervision with Hugo Morais (Técnico Lisboa, U. Lisbon)

RAFAEL CANDEIAS (COMPUTER SCIENCE AND ENGINEERING, TÉCNICO LISBOA, U. LISBON), 2022/2023
Thesis: Semi-Supervised Learning Applied to Soil Nutrient Estimation Using Earth Observation Data.

ANA OLIVEIRA (ELECTRICAL AND COMPUTER ENGINEERING, TÉCNICO LISBOA, U. LISBON), 2022/2023
Thesis: Water-Energy-Food Nexus in Industrial Kitchens: Energy Efficiency and Management. In co-supervision with Hugo Morais (Técnico Lisboa, U. Lisbon)

FÁBIO BASSOI (COMPUTER SCIENCE AND ENGINEERING, TÉCNICO LISBOA, U. LISBON), 2022/2023
Thesis: Data-Driven Approach to Predict the Consumption of Electrical Energy in Residencies Using Multiple Scopes of Non-Electric Data

MÁRCIO ROMERO (ELECTRICAL AND COMPUTER ENGINEERING, TÉCNICO LISBOA, U. LISBON), 2022/2023
Thesis: Water-Energy-Food Nexus in Industrial Kitchens - Load Modelling of Industrial Kitchen Devices. In co-supervision with Hugo Morais (Técnico Lisboa, U. Lisbon)

VASCO ANDRADE (ELECTRICAL AND COMPUTER ENGINEERING, TÉCNICO LISBOA, U. LISBON), 2022/2023

Thesis: Forecast of Electrical Consumption in Industrial Kitchens. In co-supervision with Hugo Morais (Técnico Lisboa, U. Lisbon)

RICARDO MARTINS (DATA SCIENCE AND ENGINEERING, TÉCNICO LISBOA, U. LISBON), 2022
Thesis: Machine Learning Applications in Industrial Kitchens: Data Acquisition and Data-Driven Water-Energy-Food Nexus Modelling. In co-supervision with Hugo Morais (Técnico Lisboa, U. Lisbon)

NUNO VELOSA (INFORMATICS ENGINEERING, UNIVERSITY OF MADEIRA), 2020/2021 - 2021/2022
Thesis: Exploring the potential of social agents and distributed ledger technologies for load balancing in community energy systems. In co-supervision with Filipe Quintal (University of Madeira)

MANUEL PEREIRA (INFORMATICS ENGINEERING, NUNIVERSITY OF MADEIRA), 2020/2021 - 2021/2022
Thesis: Exploring the potential of machine-learning and earth observations data for climate change mitigation. In co-supervision with Filipe Quintal (University of Madeira)

DIOGO NOBREGA (ELECTRICAL AND COMPUTER ENGINEERING, TÉCNICO LISBOA, U. LISBON), 2021/2022
Thesis:Battery Energy Storage System to Provide Grid Services. In co-supervision with Hugo Morais (Técnico Lisboa, U. Lisbon)

JORGE AMANTEGUI (ENERGY ENGINEERING AND MANAGEMENT, TÉCNICO LISBOA, U. LISBON), 2021/2022
Thesis: On the Potential of RES and Storage Devices in the Context of Restaurant Kitchens. In co-supervision with Hugo Morais (Técnico Lisboa, U. Lisbon)

ARUN NAGARAJ (ENERGY ENGINEERING AND MANAGEMENT, TÉCNICO LISBOA, U. LISBON), 2020/2021
Thesis: Participation of prosumers in peer-to-peer negotiation in Energy Communities. In co-supervision with Hugo Morais (Técnico Lisboa, U. Lisbon) | Now at Microsoft Portugal

MIKOLAJ KRUTNIK (ENERGY ENGINEERING AND MANAGEMENT, TÉCNICO LISBOA, U. LISBON), 2019/2020
Thesis: Energy Services for the Food Industry. In co-supervision with Nuno Nunes (University of Lisbon) and Van Malcolm Yadack (Koena Tech) | Now at McKinsey & Company

DINO VASCONCELOS (ELECTRICAL ENGINEERING, UNIVERSITY OF MADEIRA), 2017/2018 - 2019/2020
Thesis: Electric Vehicle Smart Charging. In co-supervision with Dionisio Barros (University of Madeira) | Now at Tech4Home

FAYAZ AHMED (ENERGY ENGINEERING AND MANAGEMENT, TÉCNICO LISBOA, U. LISBON), 2018/2019
Thesis:Assessing the Value Proposition of Disaggregated Electricity Consumption Data through Real-World Deployments. In co-supervision with Nuno Jardim Nunes (University of Lisbon) | now at CleanWatts

RODOLFO GONÇALVES (INFORMATICS ENGINEERING, UNIVERSITY OF MADEIRA), 2013/2014 - 2014/2015
Thesis: OpenDataHub:An Open Dataset Management System. In co-supervision with Nuno Nunes and Filipe Quintal (University of Madeira) | now at blip.pt

PHD THESES EXAMINER

DÉCIO ALVES (ELECTRICAL ENGINEERING, UNIVERSITY OF MADREIRA, PORTUGAL) - 2025
Thesis:Very Short-Range Forecasting of Wind Speed and Direction for Air Traffic Operations at Madeira Airport

FRANCESCA MARCELLO (ELECTRONIC AND COMPUTER ENGINEERING, UNIVERSITY OF CAGLIARY, ITALY) - 2023
Thesis: Sensors and Wearable-based Activity Recognition and Behaviour Analysis for Users' Quality of Life Improvement

FÁBIO MENDONÇA (ELECTRICAL AND COMPUTER ENGINEERING, TÉCNICO LISBOA, U. LISBON) - 2021
Thesis: Signal Processing Approaches for Sleep Quality Analysis in Suspected Sleep Disorder Patients

SANDY ABREU (ELECTRICAL AND COMPUTER ENGINEERING, TÉCNICO LISBOA, U. LISBON) - 2021
Thesis: Improving Machine Learning Prediction and Forecasting Models Used in Photovoltaic Monitoring Systems

MSC THESES EXAMINER

MINA VILDAN ŞARK (INNOVATION AND RESEARCH FOR SUSTAINABILITY, ISEG, U. LISBON), 2025

Thesis: Carbon Footprint of Artificial Intelligence (AI) Models: Estimation and Reduction Approaches

CATARINA HENRIQUES (ELECTRICAL AND COMPUTER ENGINEERING, TÉCNICO LISBOA, U. LISBON), 2024
Thesis: Use of Transfer Learning in Forecast Algorithms Applied to Electric Vehicles Charging Stations Consumption

AFONSO BARRADAS (LECTRICAL AND COMPUTER ENGINEERING, TÉCNICO LISBOA, U. LISBON), 2023
Thesis: Funchal Port as an Energy Hub Optimal Resources Management

DUARTE SCHEDEL (ELECTRICAL AND COMPUTER ENGINEERING, TÉCNICO LISBOA, U. LISBON), 2024
Thesis: Optimal management of a Hydrogen Production Plant with a Self-Consumption System based on Solar Photovoltaic

RAFAEL SARDINHA (ENERGY ENGINEERING AND MANAGEMENT, TÉCNICO LISBOA, U. LISBON), 2023
Thesis: Microgrids – Impact on the development of rural communities in Sub-Saharan Africa

LUCAS NOLASCO (ELECTRICAL AND INDUSTRIAL INFORMATICS ENGINEERING, UTFPR, BRAZIL), 2023
Thesis: DEEPDFML-NILM: A Deep Learning-Based Model for Detection, Feature Extraction and Classification in NILM Signals

JOSÉ SARAMAGO (ELECTRICAL AND COMPUTER ENGINEERING, TÉCNICO LISBOA, U. LISBON), 2023
Thesis: Energy Communities : Military Academy Use Case

FRANCISCO FIALHO (COMPUTER SCIENCE AND ENGINEERING, TÉCNICO LISBOA, U. LISBON), 2022
Thesis: PowerShare - AI Energy Sensor Interface for Google Home/Assistant

GUILLERMO LOPEZ (ELECTRICAL AND COMPUTER ENGINEERING, TÉCNICO LISBOA, U. LISBON), 2022
Thesis: Management of Autonomous Electric Vehicles in Parking Lots

DUARTE SILVA (ELECTRICAL AND COMPUTER ENGINEERING, TÉCNICO LISBOA, U. LISBON), 2021
Thesis: Sistema Hierárquico de Gestão de Energia em Parques de Estacionamento (Hierarchical Energy Management System in Car Parks)

DUARTE PINTO (COMPUTER SCIENCE AND ENGINEERING, ISCTE, IUL), 2021
Thesis: User Emotional Interaction Processor: A tool to support the development of GUIs through physiological user monitoring

JOAQUIM PEREZ (INFORMATICS ENGINEERING, UNIVERSITY OF MADEIRA), 2021
Thesis: Development and Analysis of an Open-source Platform to Simulate Electric Vehicle Charging Needs

ANDRÉ MOURA (INFORMATICS ENGINEERING, UNIVERSITY OF MADEIRA), 2021
Thesis: User Chat Clustering Using Deep Learning Representations and Unsupervised Methods for Dialog System Applications

ANDRESSA BADE (ENERGY ENGINEERING AND MANAGEMENT, TÉCNICO LISBOA, U. LISBON), 2020
Thesis: Small Flexibility-based Frequency Containment Reserves - Opportunities in the European Union and Case Study

DIOGO CRUZ (INFORMATICS ENGINEERING, UNIVERSITY OF MADEIRA), 2020
Thesis: User Interfaces and Methods for Visual Search in Images

GRADUATED BACHELOR STUDENTS

TONI GARCÊS (INFORMATICS ENGINEERING, UNIVERSITY OF MADEIRA), 2023
Project: Visualising Electricity Consumption in Industrial Kitchens.

TOM MENDONÇA (INFORMATICS ENGINEERING, UNIVERSITY OF MADEIRA), 2023
Project: Frontend application for the TerraSenseTK Machine-Learning Toolkit.

FILIPE LOPES (INFORMATICS ENGINEERING, UNIVERSITY OF MADEIRA), 2023
Project: Frontend application for the PROCSIM Energy Communities Simulator.

PEDRO JAQUES (INFORMATICS ENGINEERING, UNIVERSITY OF MADEIRA), 2023
Project: Empirical exploration of performance metrics for power and energy estimation using NILM.

JOÃO PEREIRA (INFORMATICS ENGINEERING, UNIVERSITY OF MADEIRA), 2020
Project: Perceptions of sustainable development web-platform.

MANUEL PEREIRA (INFORMATICS ENGINEERING, UNIVERSITY OF MADEIRA), 2019

Project: dsCleaner: A Python Library to Clean, Preprocess and Convert Non-Intrusive Load Monitoring Datasets.

NUNO VELOSA (INFORMATICS ENGINEERING, UNIVERSITY OF MADEIRA), 2019
Project: Multimedia File Format for Data Analytics in Smart Energy Grids.

MICHAEL CAVALEIRO (INFORMATICS ENGINEERING, UNIVERSITY OF MADEIRA), 2019
Project: Map My Drive web-platform

VISITING STUDENTS

MAZEN BOUCHUR (CLAUSTHAL UNIVERSITY OF TECHNOLOGY, GERMANY), 2025
Research Topic: Industrial loads energy disaggregation

MANOLO MANCA (UNIVERSITY OF CAGLIARI, ITALY), 2022
Research Topic: End-to-end energy disaggregation with combined single- and multi-label approaches

REVIEWING

REVIEWER IN JOURNALS
- *ACM Transactions on Intelligent Interactive Systems*
- *Elsevier Advanced Engineering Informatics*
- *Elsevier Applied Energy*
- *Elsevier Building Engineering*
- *Elsevier Electric Power Systems Research*
- *Elsevier Energy and AI*
- *Elsevier Energy and Buildings*
- *Elsevier International Journal of Electrical Power and Energy Systems*
- *Elsevier Sustainable Cities and Society*
- *Elsevier Sustainable Energy, Grids and Networks*
- *Elsevier Utilities Policy*
- *IEEE Access*
- *IEEE Journal of Modern Power Systems and Clean Energy*
- *IEEE Transactions on Consumer Electronics*
- *IEEE Transactions on Green Communications and Networking*
- *IEEE Transactions on Industrial Informatics*
- *IEEE Transactions on Instrumentation & Measurement*
- *IEEE Transactions on Smart Grid*
- *MDPI Buildings*
- *MDPI Energies*
- *MDPI Future Internet*
- *MDPI Sensors*
- *MDPI Smart Cities*
- *MDPI Sustainability*
- *MDPI Technologies*
- *MDPI Urban Science*
- *Proceedings of the IEEE*
- *Nature Scientific Data*
- *Nature Scientific Reports*
- *Springer Energy Informatics*
- *Wiley International Journal of Energy Research*

REVIEWER IN CONFERENCES
- *International ACM Conference on Automotive User Interfaces and Interactive Vehicular Applications (AUTOUI)*
- *ACM CHI Conference on Human Factors in Computing Systems (CHI)*
- *ACM Conference on Computer-Supported Cooperative Work and Social Computing (CSCW)*
- *ACM Conference on Designing Interactive Systems (DIS)*
- *ACM Nordic Conference on Human-Computer Interaction (NordiCHI)*
- *ACM Conference on Intelligent User Interfaces (IUI)*
- *ACM International Conference on Embedded Systems for Energy-Efficient Buildings (BuildSys)*
- *ACM SIGCHI Conference on Mobile Human-Computer Interaction (MobileHCI)*
- *ACM SIGCHI Symposium on Engineering Interactive Computing Systems (EICS)*
- *ACM SIGCHI Symposium on User Interface Software and Technology (UIST)*

- *ACM International Conference on Information Technology for Social Good (GoodIT)*
- *ACM International Conference on Future and Sustainable Energy Systems (e-Energy)*
- *Annual Conference of the IEEE Industrial Electronics Society (IECON)*
- *European Conference on Machine Learning and Principles and Practice of Knowledge Discovery in Databases (ECML-PKDD)*
- *IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP)*
- *IEEE International Conference on Artificial Intelligence & eXtended and Virtual Reality (AIxVR)*
- *IEEE International Conference on Smart Computing (SmartComp)*
- *IEEE PES Power Africa Conference (PowerAfrica)*
- *IEEE Mediterranean Electrotechnical Conference (MELECON)*
- *IEEE International Conference on Omni-Layer Intelligent Systems (COINS)*
- *IEEE International Conference on Communications (ICC)*
- *IEEE Innovative Smart Grid Technologies Europe (ISGT Europe)*
- *IFIP Conference on Sustainable Internet and ICT for Sustainability (SustainIT)*
- *International Conference on Smart Energy Systems and Technologies (SEST)*
- *International Conference on Mobile and Ubiquitous Multimedia (MUM)*
- *International Conference on ICT for Sustainability (ICT4S)*
- *International Conference on Smart Cities and Green ICT Systems (SMARTGREENS)*

REVIEWER IN WORKSHOPS
- Workshop on Tackling Climate Change with Machine Learning (CCAI)
- *International Workshop on Non-Intrusive Load Monitoring (NILMWS)*
- *ACM Workshop On Embedded Systems For Energy-Efficient Buildings (BuildSys)*

EDITING

EDITOR IN CONFERENCE PROCEEDINGS
- *6th International Workshop on Non-Intrusive Load Monitoring - 2022*
- *The Fifth IFIP Conference on Sustainable Internet and ICT for Sustainability - 2017*

EDITORIAL BOARD IN JOURNALS
- *Editorial Board Member: Scientific Data*

GUEST EDITOR IN JOURNALS
- *Topic Editor: MDPI Data, Energy, Sensors, Sustainability, Water - Water and Energy Monitoring and Their Nexus*
- *Guest Editor: MDPI Sensors - Special Issue on Practical Nonintrusive Load Monitoring Approaches with Meaningful Performance Evaluation*
- *Guest Editor: MDPI Energies - Special Issue on Energy Data Analytics for Smart Meter Data*
- *Guest Editor: Wiley Greenhouse Gases: Science and Technology - Special Issue on ICEA-Energy and Sustainability 2019*
- *Guest Editor: Springer Computing - Special Issue on Highlights of ES2DE and IWOBI 2017 - Extended Versions of Selected Best Papers*

CONFERENCE ORGANIZATION

CO-GENERAL CHAIR:
- *Advances in Signal Processing and Machine Learning for Non-Intrusive Load Monitoring - IEEE ICASSP 2023*
- *The 6th International Workshop on Non-Intrusive Load Monitoring - NILM 2022*

VICE-PROGRAM CHAIR:
- *The Fifth IFIP Conference on Sustainable Internet and ICT for Sustainability - SustainIT 2017*

CO-CHAIR WORK IN PROGRESS:
- *International Conference on Information Technology for Social Good - GoodIT 2023*

LOCAL ORGANIZING COMMITTEE:
- *Advances in Computer Entertainment Technology - ACE 2014*
- *IEEE Energy and Sustainability in Small Developing Economies - ES2DE 2017, 2018*

TECHNICAL PROGRAM COMMITTEE:
- *ACM International Conference on Information Technology for Social Good - GoodIT since 2021*
- *ACM Conference on Designing Interactive Systems - DIS 2020*
- *ACM Conference on Intelligent User Interfaces - Since 2017*
- *ACM International Conference on Future and Sustainable Energy Systems - e-Energy 2025*

- IEEE International Conference on Artificial Intelligence and Virtual Reality - AIVR 2018 - 2021
- IEEE International Conference on Smart Computing - SmartComp 2018 - 2020
- IEEE International Conference on Acoustics, Speech, and Signal Processing - ICASSP - since 2023
- International Workshop on Non-Intrusive Load Monitoring - NILM Workshop 2016, 2020, 2022
- International Conference on Smart Cities and Green ICT Systems - SMARTGREENS since 2024
- Workshop on Tackling Climate Change with Machine Learning - since 2023

TECHNICAL SESSION CHAIR:
- IEEE International Conference on Industrial Informatics - INDIN 2023
- IEEE Energy and Sustainability in Small Developing Economies - ES2DE 2017
- IEEE International Conference on Acoustics, Speech, and Signal Processing - ICASSP 2023
- International Workshop on Non-Intrusive Load Monitoring - NILM Workshop 2018, 2022

PUBLICATIONS

JOURNALS

1. Forte, M., Guzman, C. P., **Pereira, L.**, Morais. H. **(2025)** "A Comprehensive Review of Clustering Methods Applications in Electric Mobility", *Elsevier Transportation Engineering*

2. Forte, M., Guzman, C. P., **Pereira, L.**, Morais. H. **(2025)** "Identification of Typical Time-Series House Consumption Profiles based on Unsupervised Learning Techniques", *IEEE Access*

3. Martins, R., Morais, H., **Pereira, L. (2025)** "Unveiling energy usage patterns in industrial kitchens: From detection to clustering of appliance usage", *Computers and Electrical Engineering, Elsevier*, doi: https://doi.org/10.1016/j.compeleceng.2025.110163

4. Gomes, E., Esteves, A., Morais, H., **Pereira, L. (2025)** "Leveraging Explainable Artificial Intelligence in Solar Photovoltaic Mappings: Model Explanations and Feature Selection", *Energies, MDPI*, doi: https://doi.org/10.3390/en18051282

5. Ribeiro, M., Morais, H., **Pereira, L. (2024)** "Crafting Taxonomies for Understanding Power Consumption in Industrial Kitchens: A Methodological Framework and Real-World Application", *Sustainability, MDPI*, doi: https://doi.org/10.3390/su16177639

6. Faustine, A., Nunes, N., **Pereira, L., (2024**) "Efficiency through Simplicity: MLP-based Approach for Net-Load Forecasting with Uncertainty Estimates in Low-Voltage Distribution Networks", *Transactions on Power Systems, IEEE*, doi: https://doi.org/10.1109/TPWRS.2024.3400123

7. Gomes, E., **Pereira, L.**, Esteves, A., Morais, H., **(2024)** "Metaheuristic Optimization Methods in Energy Community Scheduling: A Benchmark Study", *Energies, MDPI*, doi: https://doi.org/10.3390/en17122968

8. Andrade, V., Morais, H., **Pereira, L., (2024)** "Industrial kitchen appliance consumption forecasting: Hour-ahead and day-ahead perspectives with post-processing improvements," *Computers and Electrical Engineering, Elsevier*, doi: https://doi.org/10.1016/j.compeleceng.2024.109145

9. Gomes, E., **Pereira, L,**, Esteves, A., Morais, H. **(2023)** "PyECOM: A Python tool for analysing and simulating Energy Communities," *SoftwareX, Elsevier*, doi: https://doi.org/10.1016/j.softx.2023.101580

10. **Pereira, L.**, Aguiar, V., Vasconcelos, F., Martins, R., Garcês, T., Morais, H. **(2023)** "FIKElectricity: A Electricity Consumption Dataset from Three Restaurant Kitchens in Portugal," *Scientific Data, Nature*, doi: https://doi.org/10.1038/s41597-023-02698-8

11. Krutnik, M., Pedro, A., Yadack, V. M., Morais, H., **Pereira, L. (2023)** "On the Potential of Tertiary Espresso Machines to Provide Frequency Containment Reserves Services," *Transactions on Consumer Electronics, IEEE*, doi: https://doi.org/10.1109/TCE.2023.3323823

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WORKSHOPS

74. Isaza-Giraldo, A., Bala, P., **Pereira, L. (2025)** "Meta-Evaluating Local LLMs: Rethinking Performance Metrics for Serious Games", In *2nd HEAL Workshop at CHI Conference on Human Factors in Computing Systems*, April 26, 2025, Yokohama, Japan

75. Faustine, A., **Pereira, L. (2025)** "Enhancing LV System Resilience through Probabilistic Forecasting of Interdependent Variables: Voltage, Reactive and Active Power", In *CIRED Chicago 2024 Workshop*, CIRED Chicago '24

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EXTENDED ABSTRACTS, POSTERS, AND DEMO ABSTRACTS

87. Sachser, L., Isaza-Giraldo, A., Jiskrová, A., Cesário, V., Campos, P., **Pereira, L.**, Bala, P. **(2025)** "En-join: Speculative LLM Play for Energy Community Engagement and Sustainability Awareness", In *ACM Designing Interactive Systems (DIS) 2025* [demo abstract]

88. Isaza-Giraldo, A., Bala, P., Jiskrová, A., Sachser, L., Campos, P., **Pereira, L. (2025)** "Meta-evaluating the Effects of Social Preferences on NPC-evaluators in an Energy Community

Game", *Extended Abstracts of the 2025 CHI Conference on Human Factors in Computing Systems*, CHI 2025 [extended abstract]

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92. Vasconcelos, F., Aguiar, V., **Pereira, L.**, **(2019)** "Ultrasonic Waste Monitoring in the Future Industrial Kitchen", in *Proceedings of the 17th ACM Conference on Embedded Networked Sensor Systems*, SenSys '19 [poster]

93. **Pereira, L. (2019)** "A Mouse (H)Over a Hotspot Survey: An Exploration of Patterns of Hesitation through Cursor Movement Metrics", *Extended Abstracts of the 2019 CHI Conference on Human Factors in Computing Systems*, CHI 2019 [extended abstract]

94. Quintal, F., Scuri, S., Barreto, S., **Pereira, L.**, Vasconcelos, D., Pestana, D. **(2019)** "", *Extended Abstracts of the 2019 CHI Conference on Human Factors in Computing Systems*, CHI 2019 [extended abstract]

95. Barros, L., **Pereira, L.**, and Pyakurel, P. (**2018**) "On the Challenges of Charging Electric Vehicles in Domestic Environments", *Proceedings of the 9th International Conference on Future Energy Systems*, e-Energy '18 [poster]

96. **Pereira, L.**, Chisik, Y. (**2017**) "A Mouse over a Hotspot Survey: An exploration of perceptions of electricity consumption and patterns of indecision", in *Proceedings of the Fifth IFIP International Conference on Sustainable Internet and ICT for Sustainability*, SustainIT '17, [work-in-progress]

97. **Pereira, L.** (**2017**) "EMD-DF: A Data Model and File Format for Energy Disaggregation Datasets", In *Proceedings of the ACM International Conference on Systems for Energy-Efficient Built Environments*, BuildSys '17 [poster]

98. Ribeiro, M., **Pereira, L.**, Quintal, F, and Nunes, N.J. (**2016**) "SustDataED: A Public Dataset for Electric Energy Disaggregation Research", In *Proceedings of ICT for Sustainability 2016*, ICT4S '16 [poster]

99. **Pereira, L.** and Nunes, N.J. (**2015**) "Towards Systematic Performance Evaluation of Non-Intrusive Load Monitoring Algorithms and Systems" In *Proceedings of the Fourth IFIP Conference on Sustainable Internet and ICT for Sustainability*, SustainIT '15 [doctoral consortium]

100. **Pereira, L.** and Nunes, N.J. (**2015**) "Semi-automatic labeling for Non-Intrusive Load Monitoring Datasets" In *Proceedings of the Fourth IFIP Conference on Sustainable Internet and ICT for Sustainability*, SustainIT '15 [poster]

101. Quintal, F., **Pereira, L.**, Jorge, C. and Nunes, N.J. (**2015**) "EnerSpectrum: Exposing the source of energy through plug-level eco-feedack" In *Proceedings of the Fourth IFIP Conference on Sustainable Internet and ICT for Sustainability*, SustainIT '15 [poster]

102. **Pereira, L.**, Nunes, N. and Bergés, M. (**2014**) "SURF and SURF-PI: A File Format and API for Non-Intrusive Load Monitoring Public Datasets" In *Proceedings of the 5th International Conference on Future Energy Systems*, e-Energy '14 [poster]

103. Quintal, F., **Pereira, L.**, Nunes, N. and Nivi, V. (**2014**) "What a watt: Where does my electricity comes from?", In *Adjunct Proceedings of the International Working Conference on Advanced Visual Interfaces*, AVI '14 [demo]

104. **Pereira, L.** (**2013**) "Towards Automating the Performance Evaluation of Non-Intrusive Load Monitoring Systems" In *Proceedings of the International Conference on ICT for Sustainability*, ICT4S '13 [doctoral consortium]

105. Quintal, F., Nisi, V., Nunes, N.J., Barreto, M. and **Pereira, L.** (**2012**) "HomeTree - An Art Inspired Mobile Eco-feedback Visualization" In *Proceedings of the International Conference on Advances In Computer Entertainment Technology*, ACE '12 [demo]

106. Gouveia, L., **Pereira, L.**, Scott, M. and Oakley, I. (**2012**) "Eco-Avatars: Visualizing Disaggregate Home Energy Usage" In *ACM Conference of Designing Interactive Systems*, DIS '12 [demo]

107. Quintal, F., **Pereira, L.** and Nunes, N.J. (**2012**) "A Long-term Study of Energy Eco-feedback Using Non-Intrusive Load Monitoring" In *Proceedings of the International Conference on Persuasive Technology*, Persuasive '12 [poster]

BOOKS
108. Reinhardt, A., **Pereira, L. (2021)** "Energy Data Analytics for Smart Meter Data", MDPI Books, ISBN (PDF): 978-3-0365-2017-9, doi: https://doi.org/10.3390/books978-3-0365-2017-9

BOOK CHAPTERS
109. Knobloch, A., Mostafa, M., Lopes, JAP, Moreira, C., Carvalho, C., Morais, H., **Pereira, L.,** Michael Finkel **(2024)** "Insular Power Systems", The IET Books, doi: https://doi.org/10.1049/PBPO231E_ch10

SELECTED TALKS

1. *"SHIFT2DC and AHEAD Horizon Europe Projects: Objectives and Progress" Smart, Efficient and Sustainable Energy Use Workshop* **(2024)**, *Madeira Digital Transformation Week (MDTWeek), Funchal, Portugal*

2. *"Electricity-Water Nexus Analysis in Industrial Kitchen Appliance Water Consumption"* **(2023)**, SmaCuMed International Conference on Water-Energy-Food-Ecosystem Nexus in the Mediterranean (WEFE2023), Marrakesh, Morocco

3. *"SMILE -Smart Island Energy Systems"* **(2021)**, Island Energy Transition Experience in H2020 Projects - Chapter 1 DSM, Flexibility and Energy Management, Online

4. *"Energy Monitoring, Storage Control and AI in the Wild: Experiences from a real-world demonstrator"* **(2020)**, CeADAR: Ireland national centre for Applied AI and Data Analytics, Online

5. *"Furthering Energy and Environment Research at ITI/LARSyS"* **(2019)**, University of Klagenfurt, Klagenfurt, Austria

6. *"SoCoL: Semi-automatic Collaborative Labelling for NILM datasets"* (**2018**), European Non-Intrusive Load Monitoring Workshop, Duisburg, Germany

ACADEMIC VISITS

1. Visiting researcher at the Massachussets Institute of Technology, Cambridge, MA, USA (April 2024)

2. Visiting researcher at the University of Cagliari, Cagliari, Italy (April 2022)

3. École Normale Supérieure – PSL Université Paris, (December 2019)

4. Visiting researcher at the University of Klagenfurt, Klagenfurt, Austria (September 2019)

5. Visiting researcher at Carnegie Mellon University, Pittsburgh, PA, USA, (October 201

6. Visiting researcher at Carnegie Mellon University, Pittsburgh, PA, USA, (August 2013 to December 2013)

ACADEMIC SERVICE

MANAGEMENT OF SCIENCE AND TECHNOLOGY
1. Member of the ITI/LARSyS Scientific Committee, 2020 - 2026

2. URBAN Thematic Line Coordinator at LARSyS, 2022 - 2026

PARTICIPATION AS A MEMBER OF COMPETITIVE ADMISSIONS
1. Agencia Nacional de Investigación y Desarrolo (Chile), Fondecity Regular, 2023

2. Dutch Research Council (NWO) Talent Programme, 2021

MEMBERSHIPS AND AFFILIATIONS

MEMBERSHIPS

Ordem dos Engenheiros de Portugal (Portuguese Order of Engineers)   [2011 - present]

IEEE   [2011 - present]

ACM   [2017 - present]