LUCAS PEREIRA

RESEARCH FELLOW
ITI, LARSyS, Instituto Superior Técnico

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

CITIZENSHIP
Portugal

OFFICE
Polo Científico e Tecnológico da Madeira,
floor -2, office 3
Caminho da Penteada
9050-105 Funchal
Portugal

EMAIL
alspereira.info@gmail.com
lucas.pereira@tecnico.ulisboa.pt
lucas.pereira@iti.larsys.pt

WEB
https://alspereira.info

CIENCIA ID
421F-7B0E-8647

ORCID
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

ONGOING RESEARCH PROJECTS

G[AI]A - ACTION AND LOGIC FOR ALTERNATIVE FUTURES (G[AI]A-ALFA), 2026 - 2029
Madeira2030, M2030-FEDER-03051300
https://gaia.web.uma.pt/
Role: Research Line Coordinator

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

CONCLUDED RESEARCH PROJECTS

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 University of Madeira. Course delivered in English and Portuguese.

POST-DOCTORAL RESEARCHERS

SHEIKH MOSTAFA (TÉCNICO LISBOA, UNIVERSITY OF LISBON), 2024 - ONGOING
Funding: AI-informed Holistic EVs integration Approaches for Distribution grids (AHEAD)

ANA CATARINA MORAIS (TÉCNICO LISBOA, UNIVERSITY OF LISBON), 2024 - 2026
Funding: AI-informed Holistic EVs integration Approaches for Distribution grids (AHEAD)

GRADUATED PHD STUDENTS

JOÃO GÓIS (TÉCNICO LISBOA, UNIVERSITY OF LISBON), 2021 - 2025
Thesis: Towards Real-World NILM: Analytical and Empirical Procedures for Assessing Comparability and Reproducibility (Funded by FCT)

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)

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

FREDERIK APINA (INFORMATICS ENGINEERING, UNIVERSITY OF MADEIRA), 2025/2026
Thesis: Timeseries Foundational Models in Energy Demand Forecasting under Data Scarcity. In co-supervision with Filipe Quintal (University of Madeira)

ANDRÉ BENTO (COMPUTER SCIENCE AND ENGINEERING, TÉCNICO LISBOA, UNIVERSITY OF LISBON), 2025/2026
Thesis: Non-Intrusive Load Monitoring on Industrial Kitchen Data. In co-supervision with Hugo Morais (Técnico Lisboa, U. Lisbon)

LILIANA SUN (COMPUTER SCIENCE AND ENGINEERING, TÉCNICO LISBOA, UNIVERSITY OF LISBON), 2025/2026
Thesis: Interpreting Industrial Kitchen Consumption Data Using Large Language Models and Retrieval-Augmented Generation. In co-supervision with Paulo Bala (ITI/LARSyS, ARDITI)

LUÍS MARTINS (ELECTRICAL AND COMPUTER ENGINEERING, TÉCNICO LISBOA, UNIVERSITY OF LISBON), 2025/2026
Thesis: Data Science for Ports (DS4Ports): Data-Driven Modelling of Port Assets. In co-supervision with Hugo Morais (Técnico Lisboa, U. Lisbon)

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

TONY GRACÊS (INFORMATICS ENGINEERING, UNIVERSITY OF MADEIRA), 2024/2025
Thesis: Data Science for Ports (DS4Ports): Data-Driven Modelling of Port Assets. In co-supervision with Hugo Morais (Técnico Lisboa, U. Lisbon)

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)

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)

DIOGO REIS (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)

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)

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; Applied Energy; Building Engineering; Electric Power Systems Research; Energy and AI; Energy and Buildings; International Journal of Electrical Power and Energy Systems; Internet of Things, Smart Energy, Sustainable Cities and Society; Sustainable Energy, Grids and Networks; Utilities Policy*
- IEEE: *Access; Journal of Modern Power Systems and Clean Energy; Transactions on Consumer Electronics; Transactions on Green Communications and Networking; Transactions on Industrial Informatics; Transactions on Instrumentation & Measurement; Transactions on Smart Grid; Proceedings of the IEEE*
- MDPI: *Buildings; Energies; Future Internet; Sensors; Smart Cities; Sustainability; Technologies; Urban Science*
- Nature: *Scientific Data; 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 Conference on Intelligent User Interfaces - Since 2017*
- *ACM International Conference on Information Technology for Social Good - GoodIT since 2021*
- *ACM Conference on Designing Interactive Systems - DIS 2020*
- *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:

- *International conference on Time Series and Forecasting . ITISE 2026*
- *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. Velosa, N., Morais, H., **Pereira, L.**, 2026. Day-ahead optimization model for renewable energy communities considering load shifting, electric vehicles and vehicle-to-grid technology. Sustainable Energy, Grids and Networks 46, 102202. https://doi.org/10.1016/j.segan.2026.102202

2. Alves, D., Radeta, M., Mendonça, F., **Pereira, L.**, Morgado-Dias, F., 2026. A low-latency deep learning framework for volcanic ash cloud nowcasting using geostationary satellite imagery. Sci Rep 16, 14498. https://doi.org/10.1038/s41598-026-42230-7

3. Mwinuka, L.J., Cafaro, M., **Pereira, L.**, Morais, H., 2026. Big data energy systems: A survey of practices and associated challenges. Computer Science Review 60, 100927. https://doi.org/10.1016/j.cosrev.2026.100927

4. Mwinuka, L.J., Cafaro, M., **Pereira, L.**, Morais, H., 2026. The Design and Implementation of a Graph-Based P2P Data Storage Service. Future Internet 18, 9. https://doi.org/10.3390/fi18010009

5. **Pereira, L.**, Monteiro, D., Apina, F., Scuri, S., Barreto, M., Quintal, F., Morais, H., 2025. Longitudinal Dataset of Net-load, PV Production and Solar Irradiation from Madeira Island, Portugal. Sci Data 12, 1892. https://doi.org/10.1038/s41597-025-06118-x

6. Ngirwa, C., Reis, D., Morais, H., **Pereira, L. (2025)** "Shifting currents: Expert perspectives on the adoption of Direct Current in power grids", Elsevier Energy Research & Social Science, doi: https://doi.org/10.1016/j.erss.2025.104370

7. Góis, J., **Pereira. L. (2025)** "Appliance-Specific Noise-Aware Hyperparameter Tuning for Enhancing Non-Intrusive Load Monitoring Systems", Energies, MDPI, doi: https://doi.org/10.3390/en18143847

8. Forte, M., Guzman, C. P., **Pereira, L.**, Morais. H. **(2025)** "A Comprehensive Review of Clustering Methods Applications in Electric Mobility", *Elsevier Transportation Engineering,* doi: https://doi.org/10.1016/j.treng.2025.100360

9. 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,* doi: https://doi.org/10.1109/ACCESS.2025.3585204

10. 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

11. 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

12. 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

13. 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

14. 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

15. 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

16. 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

17. **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

18. 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

19. Góis, J., **Pereira, L. (2023)** "ANR: A New Metric to Quantify the Appliance to Noise Ratio in Load Disaggregation Datasets," *Transactions on Instrumentation and Measurement, IEEE*, doi: https://doi.org/10.1109/TIM.2023.3311066

20. Perez, J., Quintal, F., **Pereira, L. (2023)**"Distributed Platform for Offline and Online EV Charging Simulation," **Electronics, MDPI**, doi: https://doi.org/10.3390/electronics12214401

21. Velosa, N., Gomes, E., Morais. M., **Pereira, L. (2023)** "PROCSIM: An Open-Source Simulator to Generate Energy Community Power Demand and Generation Scenarios," *Energies, MDPI*, doi: https://doi.org/10.3390/en16041611

22. Pedro, A., Krutnik, M., Yadack, V. M., **Pereira, L.**, Morais, H. **(2022)** "Opportunities and Challenges for Small-Scale Flexibility in European Electricity Markets," *Utilities Policy, Elsevier*, doi: https://doi.org/10.1016/j.jup.2022.101477

23. Amantegui, J., Morais, H., **Pereira, L. (2022)** "Benchmark of Electricity Consumption Forecasting Methodologies Applied to Industrial Kitchens," *Buildings, MDPI,* doi: https://doi.org/10.3390/buildings12122231

24. Bousbiat, B., Faustine, A., Klemenjak, C., **Pereira, P.**, Elmenreich, W. **(2022)** "Unlocking the Full Potential of Neural NILM: On Automation, Hyperparameters & Modular Pipelines", *Transactions on Industrial Informatics, IEEE*, doi: https://doi.org/10.1109/TII.2022.3206322

25. Góis, J., **Pereira, L.**, Nunes, N. **(2022)** "A Data-Centric Analysis of the Impact of Non-Electric Data on the Performance of Load Disaggregation Algorithms", *Sensors, MDPI,* doi: https://doi.org/10.3390/s22186914

26. Fiqueli, Z., **Pereira, L.**, **(2022)** "Privacy Protection in Smart Meters using Homomorphic Encryption: an overview", *WIREs Data Mining and Knowledge Discovery, Wiley*, doi: https://doi.org/10.1002/widm.1469

27. **Pereira, L.**, Velosa. N., Pereira, M. **(2022)** "A Data Model and File Format to Represent and Store High Frequency Energy Monitoring and Disaggregation Datasets", *Scientific Reports, Nature,* doi: https://doi.org/10.1038/s41598-022-14517-y

28. Gomes, L., Morais, H., Rodrigues, C., Gomes, E., **Pereira, L.**, Vale, Z. **(2022)** "Impact of Forecasting Models Errors in a Peer-to-Peer Energy Sharing Market", *Energies, MDPI,* doi: https://doi.org/10.3390/en15103543

29. **Pereira, L.**, Costa, D., Ribeiro, M. (2022) "A residential labeled dataset for smart meter data analytics", *Scientific Data, Nature*, doi: https://doi.org/10.1038/s41597-022-01252-2

30. Faustine, A., **Pereira, L. (2022)** "FPSeq2Q: Fully Parameterized Sequence to Quantile Regression for Net-Load Forecasting with Uncertainty Estimates", *Transactions on Smart Grid, IEEE*, doi: https://doi.org/10.1109/TSG.2022.3148699

31. Góis, J., **Pereira, L. (2021)** "A Novel Methodology for Identifying Appliance Usage Patterns in Buildings Based on Auto-Correlation and Probability Distribution Analysis", *Energy and Buildings, Elsevier*, doi: https://doi.org/10.1016/j.enbuild.2021.111618

32. Quintal, F., Garigali, D., Vasconcelos, D., Cavaleiro, J., Santos, W. , **Pereira, L. (2021)** "Energy Monitoring in the Wild: Platform Development and Lessons Learned from a Real-World Demonstrator", *Energies, MDPI*, doi: https://doi.org/10.3390/en14185786

33. **Pereira, L.**, Aguiar, V., Vasconcelos, F. **(2021)** "FIKWater: A Water Consumption Dataset from Three Restaurant Kitchens in Portugal", *Data, MDPI*, doi: https://doi.org/10.3390/data6030026

34. **Pereira, L.**, Aguiar, V., Vasconcelos, F. **(2021)** "FIKWaste: A Waste Generation Dataset from Three Restaurant Kitchens in Portugal", *Data, MDPI*, doi: https://doi.org/10.3390/data6030025

35. Völker, B., Reinhardt, A., Fausten, A., **Pereira, L. (2021)** "Watt's up at Home? Smart Meter Data Analytics from a Consumer-Centric Perspective" *Energies, MDPI*, doi: https://doi.org/10.3390/en14030719

36. **Pereira, L.**, Cavaleiro, J., Barros, L. **(2020)** "Economic Assessment of Solar-Powered Residential Battery Energy Storage Systems: The Case of Madeira Island, Portugal" *Applied Sciences, MDPI*, doi: https://doi.org/10.3390/app10207366

37. **Pereira, L.**, Nunes, N. **(2020)** "An Empirical Exploration of Performance Metrics for Event Detection Algorithms in Non-Intrusive Load Monitoring", *Sustainable Cities and Society, Elsevier*, doi: https://doi.org/10.1016/j.scs.2020.102399

38. Faustine, A., **Pereira, L.**, Klemenjak, C. **(2020)** "Adaptive Weighted Recurrence Graphs for Appliance Recognition in Non-Intrusive Load Monitoring", *Transactions on Smart Grid, IEEE*, doi: https://doi.org/10.1109/TSG.2020.3010621

39. Faustine, A., **Pereira, L.** (**2020**) "Multi-label Learning for Appliance Recognition in NILM using Fryze-Current Decomposition and Convolutional Neural Network", *Energies, MDPI*, doi: https://doi.org/10.3390/en13164154

40. Faustine, A., **Pereira, L. (2020)** "Improved Appliance Classification in Non-Intrusive Load Monitoring Using Weighted Recurrence Graph and Convolutional Neural Networks", *Energies, MDPI*, doi: https://doi.org/10.3390/en13133374

41. Câmara, E., **Pereira, L. (2020)** "PB-NILM: PinBall Guided Deep Non-Intrusive Load Monitoring", *Access, IEEE*, doi: https://doi.org/10.1109/ACCESS.2020.2978513

42. Hashmi, Md U., Deka, D., Bušić, A., **Pereira, L.**, Backhaus, S. (**2020**) "Arbitrage with power factor correction using energy storage", *Transactions on Power Systems, IEEE*, doi: https://doi.org/10.1109/TPWRS.2020.2969978

43. **Pereira, L.**, Nunes, N. **(2019)** "Understanding the practical issues of deploying energy monitoring and eco-feedback technology in the wild: Lesson learned from three long-term deployments.", *Energy Reports, Elsevier*, doi: https://doi.org/10.1016/j.egyr.2019.11.025

44. **Pereira, L. (2019)** "NILMPEds: A Performance Evaluation Dataset for Event Detection Algorithms in Non-Intrusive Load Monitoring", *Data, MDPI*, doi: https://doi.org/10.3390/data4030127

45. Pereira, M., Velova, N., **Pereira, L. (2019)** "dsCleaner: A Python Library to Clean, Preprocess and Convert Non-Instrusive Load Monitoring Datasets", *Data, MDPI*, doi: https://doi.org/10.3390/data4030123

46. Torabi, R., Rodrigues, S., Cafôfo, N., **Pereira, L.**, Quintal, F. , Nunes, N., Morgado-Dias, F. **(2018)** "A global monitoring system for electricity consumption and production of household roof-top PV systems in Madeira", *Neural Computing and Applications, Springer,* doi: https://doi.org/10.1007/s00521-018-3832-3

47. Baptista, D., Shanawaz Mostafa, S., **Pereira, L.**, Sousa, L., Morgado-Dias, F. (**2018**) "Implementation Strategy of Convolution Neural Networks on Field Programmable Gate Arrays for Appliance Classification Using the Voltage and Current (V-I) Trajectory", *Energies, MDPI*, doi: https://doi.org/10.3390/en11092460

48. **Pereira, L.**, Nunes, N. (**2018**) "Performance Evaluation in Non-Intrusive Load Monitoring: datasets, metrics and tools - a review", *WIREs Data Mining and Knowledge Discovery, John Wiley & Sons*, doi: https://doi.org/10.1002/widm.1265

49. Scott, M., **Pereira, L.**, Oakley, I. (**2014**) "Show Me or Tell Me: Designing Avatars for Feedback", *Interacting with Computers, Oxford Academic,* doi: https://doi.org/10.1093/iwc/iwu008

50. Barreto, M., Szóstek, A., Karapanos, E., Nunes, N. J., **Pereira, L.**, Quintal, F. (**2014**) "Understanding Families' Motivations for Sustainable Behaviors", *Computers in Human Behavior, Elsevier,* doi: https://doi.org/10.1016/j.chb.2014.07.042

CONFERENCES

51. Nunes, L., Mendonça, F., **Pereira, L.**, 2025. Machine-Learning Applications in Ports Electrification – A Rapid Review, in: 2025 IEEE PES Innovative Smart Grid Technologies Conference Europe (ISGT Europe). Presented at the 2025 IEEE PES Innovative Smart Grid Technologies Conference Europe (ISGT Europe), pp. 1–5. https://doi.org/10.1109/ISGTEurope64741.2025.11305556

52. Garcês, T., Taveira, J.P., Montefusco, L., Guzman, C.P., **Pereira, L.**, Morais, H., 2025. Designing for Simplicity: Lessons from a Minimalist EV Charging App, in: 2025 IEEE PES Innovative Smart Grid Technologies Conference Europe (ISGT Europe). Presented at the 2025 IEEE PES Innovative Smart Grid Technologies Conference Europe (ISGT Europe), pp. 1–5. https://doi.org/10.1109/ISGTEurope64741.2025.11305397

53. Cortez, J.C., Guzmán, C.P., **Pereira, L.**, Rider, M.J., Morais, H., 2025. A Metric-Driven Hyperparameter Optimization Framework for EV Charging Occupancy Forecasting Using LSTM and XGBoost, in: 2025 IEEE PES Innovative Smart Grid Technologies Conference Europe (ISGT Europe). Presented at the 2025 IEEE PES Innovative Smart Grid Technologies Conference Europe (ISGT Europe), pp. 1–5. https://doi.org/10.1109/ISGTEurope64741.2025.11305524

54. Mwinuka, L., Sundsgaard, K., Cafaro, M., Yang, G., **Pereira, L.**, Morais, H., 2025. A CIM-Based Graph Data Model for Reliability Studies of Medium-Voltage Cables, in: 2025 IEEE PES Innovative Smart Grid Technologies Conference Europe (ISGT Europe). Presented

at the 2025 IEEE PES Innovative Smart Grid Technologies Conference Europe (ISGT Europe), pp. 1–5. https://doi.org/10.1109/ISGTEurope64741.2025.11305336

55. Barradas, A., Neto, M., Costa, P.B., Mostafa, S.S., **Pereira, L.**, Morais, H., 2025. Optimal Management of a Port considering Shore-side Power and Electrical Vessels, in: 2025 IEEE PES Innovative Smart Grid Technologies Conference Europe (ISGT Europe). Presented at the 2025 IEEE PES Innovative Smart Grid Technologies Conference Europe (ISGT Europe), pp. 1–6. https://doi.org/10.1109/ISGTEurope64741.2025.11305612

56. Góis, J., **Pereira, L. (2025)** "Empirical Exploration of Performance Metrics for Energy Estimation in Load Disaggregation" In *Proceedings of16th IEEE PowerTech 2025*

57. Sayeg, F., Góis, J., **Pereira, L. (2025)** "Data-Driven Approach to Predict the Consumption of Electrical Energy in Households Using Features from Non-Electric Data" in *Proceedings of 2024 Annual Conference of the IEEE Industrial Electronics Society,* IECON '24

58. Faustine, A., **Pereira, L. (2024)** "Conformal Multilayer Perceptron-Based Probabilistic Net-Load Forecasting for Low-Voltage Distribution Systems with Photovoltaic Generation" in *Proceedings of 2024 IEEE International Conference on Communications, Control, and Computing Technologies for Smart Grids,* SmartGridComm '24

59. Gomes, E., **Pereira, L.**, Morais, H. **(2023)** "Energy Resources Scheduling in Energy Communities: A Comparison Between Mixed Integer Linear Programming and Hybrid-adaptive Differential Evolution with Decay Function" in *Proceedings of 2022 IEEE PES Innovative Smart Grid Technologies Conference Europe*, ISGT-Europe '23

60. Guzman, C. P., Gomes, E., **Pereira, L.**, Morais, H. **(2023)** "A Computational Implementation for Creating Electric Vehicles Profiles" in *Proceedings of 2022 IEEE PES Innovative Smart Grid Technologies Conference Europe*, ISGT-Europe '23

61. Fialho, F., Scuri, S., **Pereira, L.**, Nunes, N. **(2023)** "Virtual Assistants for Energy Efficiency: Real World Tryouts" in *Proceedings of the Third ACM International Conference on Information Technology for Social Good*, GoodIT '23

62. **Pereira, L.**, Cavaleiro, J., Morais, H. **(2023)** "Understanding the Role of Solar PV and Battery Energy Storage in a Snack Bar: A Case Study in Madeira Island" in *Proceedings of the 21st IEEE International Conference on Industrial Informatics*, INDIN'23

63. Isaza-Giraldo, A., Pereira, M., Candeias, R., **Pereira, L. (2023)** "Satellite Dataset Visual Analysis for Remote Soil Nutrient Estimation" in *Proceedings of the 3rd International Conference on Water Energy Food and Sustainability,* ICoWEFS'23

64. Oliveira, A., Ribeiro, M., Martins, R., Morais, G., Morais, H., **Pereira, L. (2023)** "On The Role Of Industrial Kitchens In Sustainable Energy Systems: The nexIK Vision" in *Proceedings of the 27th International Conference on Electricity Distribution*, CIRED'23

65. Faustine, A., **Pereira, L. (2023)** "Applying Symmetrical Component Transform for Industrial Appliance Classification in Non-Intrusive Load Monitoring", in *Proceedings of ICASSP 2023 - 2023 IEEE International Conference on Acoustics, Speech and Signal Processing*, ICASSP'23

66. Barros, L., Barreto, M., **Pereira, L. (2020)** "Understanding the challenges behind Electric Vehicle usage by drivers - a case study in the Madeira Autonomous Region" in *Proceedings of the International Conference of ICT for Sustainability 2020*, ICT4S '20

67. Hashmi, Md U., Cavaleiro, J., **Pereira, L.**, Bušić, A. **(2020)** "Sizing and Profitability of Energy Storage for Prosumers in Madeira, Portugal" in *Proceedings of the Eleventh Conference on Innovative Smart Grid Technologies*, ISGT '20

68. Hashmi, Md U., Deka, D., Bušić, A., **Pereira, L.**, Backhaus, S. **(2019)** "Co-optimizing Energy Storage for Prosumers Using Convex Relaxations", in *Proceedings of the 20th International Conference on Intelligent Systems Applications to Power Systems*, ISAP '19

69. Klemenjak, C., Reinhardt, A., **Pereira, L.**, Berges, M., Makonin, S., Elmenreich, W. **(2019)** "Electricity Consumption Data Sets: Pitfalls and Opportunities", in *Proceedings of the 6th ACM International Conference on Systems for Energy-Efficient Buildings, Cities, and Transportation*, BuildSys '19 [notes paper]

70. **Pereira, L.**, Cavaleiro, J. **(2019)** "On the Value Proposition of Battery Energy Storage in Self-Consumption Only Scenarios: A Case-Study in Madeira Island", in *Proceedings of the IEEE 45th Annual Conference of the Industrial Electronics Society*, IECON '19

71. Barreto, M., **Pereira, L.**, Quintal, F. **(2019)** "The Acceptance of Energy Monitoring Technologies – The Case of Local Prosumers", in *Proceedings of the International Conference of ICT for Sustainability 2019,* ICT4S '19

72. Hashmi, Md U., **Pereira**, L. Bušić, A. **(2019)**, "Energy Storage in Madeira, Portugal: Co-optimizing for Arbitrage, Self-Sufficiency, Peak Shaving and Energy Backup", in *Proceedings of the 13th IEEE PowerTech 2019,* PowerTech '19

73. **Pereira, L.**, Gonçalves, R., Quintal, F., Nunes, N.J. (**2018**) "Data Storage and Maintenance Challenges: The Case of Advanced Metering Infrastructure Systems", in P*roceedings of the International Conference of ICT for Sustainability 2018,* ICT4S '18

74. **Pereira, L.**, Ribeiro, M., Nunes, N.J. (**2017**) "Engineering and Deploying a Hardware and Software Platform to Collect and Label Non-Intrusive Load Monitoring Datasets", in *Proceedings of the Fifth IFIP International Conference on Sustainable Internet and ICT for Sustainability*, SustainIT '17

75. **Pereira, L.** (**2017**) "Developing and Evaluating a Probabilistic Event Detector for Non-Intrusive Load Monitoring ", in *Proceedings of the Fifth IFIP International Conference on Sustainable Internet and ICT for Sustainability*, SustainIT '17

76. **Pereira, L.**, Nunes, N. (**2017**) "A Comparison of Performance Metrics for Event Classification in Non-Intrusive Load Monitoring", In *Proceedings of the IEEE International Conference on Smart Grid Communications*, SmartGridComm '17

77. Quintal, F., **Pereira, L.**, Nunes, N., Nisi, V. (**2015**) "What-a-Watt: Exploring Electricity Production Literacy Through a Long Term Eco-Feedback Study", In *Proceedings of the Fourth IFIP Conference on Sustainable Internet and ICT for Sustainability*, SustainIT '15, [short paper]

78. **Pereira, L.**, Quintal, F., Gonçalves, R. and Nunes, N.J. (**2014**) "SustData: A Public Dataset for ICT4S Electric Energy Research," *In Proceedings of the International Conference of ICT for Sustainability 2014,* ICT4S '14

79. Quintal, F., **Pereira, L.**, Nunes, N.J., Nisi, V., Barreto, M. (**2013**) "WATTSBurning: Design and Evaluation of an Innovative Eco-feedback System" *In Proceedings of the IFIP TC13 Conference on Human-Computer Interaction*, INTERACT '13

80. Quintal, F., Barreto, M., Nunes, N.J., Nisi, V. and **Pereira, L.** (**2013**) "WattsBurning on my Mailbox: A Tangible Art Inspired Eco-feedback Visualisation for Sharing Energy Consumption" *In Proceedings of the IFIP TC13 Conference on Human-Computer Interaction*, INTERACT '13 [short paper]

81. **Pereira, L.**, Quintal, F.., Barreto, M. and Nunes, N.J. (**2013**) "Understanding the Limitations of Eco-feedback: A One Year Long-term study" In *Proceedings of the ACM / IEEE Conference on Human Factors in Computing & Informatics,* SouthCHI '13

82. **Pereira, L.**, Quintal, F., Nunes, N.J. and Berges, M. (**2012**) "The Design of a Hardware-software Platform for Long-term Energy Eco-feedback Research" In *Proceedings of the ACM SIGCHI Symposium on Engineering Interactive Computing Systems,* EICS '12

83. **Pereira, L.** and Nunes, N.J. (**2012**) "Low Cost Framework for Non-Intrusive Energy Monitoring and Research" In *Proceedings of the International Conference on Smart Grids and Green IT Systems,* SmartGreens '12 [short paper]

84. Nunes, N.J., **Pereira, L.**, Quintal, F. and Bergés, M. (**2011**) "Deploying and Evaluating the Effectiveness of Energy Eco-feedback Through a Low Cost NILM Solution" In *Proceedings of the International Conference on Persuasive Technology*, Persuasive '11

85. Campos, P., Sousa, F., **Pereira, L.**, Perestrelo, C. and Freitas, D. (**2007**) "Cross-Media User Interfaces for Controlling the Enterprise - The EAGLE Integrated System" In *Proceedings of the International Conference on Enterprise Information Systems,* ICEIS '07 [short paper]

WORKSHOPS

86. 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

87. 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

88. **Pereira, L.**, Jagadeesan Nair, V., Dias. B., Morais, H., Annaswamy, A. **(2025)** "Federated Learning Forecasting for Strengthening Grid Reliability and Enabling Markets for Resilience", In *CIRED Chicago 2024 Workshop*, CIRED Chicago '24

89. Amezquita, H., Costa, P., Paraíso, G., Cardoso, C., Castro, C., **Pereira, L.**, Morais, H. **(2025)** "Forecasting Needs for Improving Grid Resilience in Shore Power Infrastructures", In *CIRED Chicago 2024 Workshop*, CIRED Chicago '24

90. **Pereira, L.**, Jagadeesan Nair, V., Annaswamy, A., Dias. B., Morais, H. **(2024)** "Accurate Federated Learning with Uncertainty Quantification for DER Forecasting Applied to Smart Grids Planning and Operation: The ALAMO Vision", In *CIRED 2024 Viena Workshop*, CIRED '24

91. Jagadeesan Nair, V., **Pereira, L. (2022)** "Improving Accuracy and Convergence of Federated Learning Edge Computing Methods for Generalized DER Forecasting Applications in Power Grid", In *NeurIPS 2022 Workshop: Tackling Climate Change with Machine Learning*, TCCML' 22

92. Beveridge, M, **Pereira, L. (2022)** "Interpretable Spatiotemporal Forecasting of Arctic Sea Ice Concentration at Seasonal Lead Times", In *NeurIPS 2022 Workshop: Tackling Climate Change with Machine Learning*, TCCML' 22

93. Manca, M., Faustine, A., **Pereira, L. (2022)** "Appliance Recognition with Combined Single- and Multi-label Approaches", In Proceedings of the *6th International Workshop on Non-Intrusive Load Monitoring,* NILM '22

94. Gois, J., Klemenjak, C., **Pereira, L.** (**2020**) "On the Relationship between Seasons of the Year and Disaggregation Performance", In *Proceedings of the 5th International Workshop on Non-Intrusive Load Monitoring,* NILM '20

95. Faustine, A., **Pereira, L.**, Bousbiat, H., Kulkarni, S. (**2020**) "UNet-NILM: A Deep Neural Network for Multi-tasks Appliances State Detection and Power Estimation in NILM", In *Proceedings of the 5th International Workshop on Non-Intrusive Load Monitoring,* NILM '20

96. Hashmi, Md U., Deka, D., **Pereira, L.**, Bušić, A. (**2020**) "Energy Storage Optimization for Grid Reliability", In *e-Energy '20: Proceedings of the Eleventh ACM International Conference on Future Energy Systems,* Energy Storage' 20

97. **Pereira, L.**, Nunes, J.N. (**2018**) "Comparison of Performance Metrics for Event Detection Algorithms in NILM", In *Proceedings of the 4th International Workshop on Non-Intrusive Load Monitoring,* NILM '19

98. Nunes, N.J., **Pereira, L.** and Nisi, V. (**2015**) "Towards using Low-Cost Opportunistic Energy Sensing for Promoting Energy Conservation" In *Proceedings of the Fostering Smart Energy Applications Workshop,* FSEA '15 [position paper]

EXTENDED ABSTRACTS, POSTERS, AND DEMO ABSTRACTS

99. 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]

100. 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]

101. Isaza-Giraldo, A., Bala, P., Campos, P., **Pereira, L. (2024)** "Prompt-Gaming: A Pilot Study on LLM-Evaluating Agent in a Meaningful Energy Game", *Extended Abstracts of the 2024 CHI Conference on Human Factors in Computing Systems*, CHI 2024 [extended abstract]

102. Velosa, N., **Pereira, L. (2021)** "Towards Pro-Social Load Balancing in Energy Communities", in *Proceedings of the 6th ACM International Conference on Systems for Energy-Efficient Buildings, Cities, and Transportation*, BuildSys '21 [poster]

103. **Pereira, L.**, Aguiar, V., Vasconcelos, F. **(2019)** "Future Industrial Kitchen: Challenges and Opportunities", in *Proceedings of the 6th ACM International Conference on Systems for Energy-Efficient Buildings, Cities, and Transportation*, BuildSys '19 [abstract paper]

104. 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]

105. **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]

106. 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]

107. 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]

108. **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]

109. **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]

110. 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]

111. **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]

112. **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]

113. 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]

114. **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]

115. 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]

116. **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]

117. 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]

118. 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]

119. 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

120. 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

121. 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. *"From Algorithms to Downstream Applications: The Case of Forecasting in Power Systems"* ***(2025)****, Keynote at the Deep Learning Techniques for Observable Smart Grid and Sustainable Energy Systems Workshop, IJCNN 2025, Rome, Italy*

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

3. *"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

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

5. *"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

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

7. *"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]