



LUCAS PEREIRA

RESEARCH FELLOW

ITI, LARSyS, Instituto Superior Técnico

CO-FOUNDER AND DATA SCIENCE LEAD

BrightCuriosity Lda (prisma.com)

CITIZENSHIP

Portugal

OFFICE

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

OFFICE PHONE

+351 291 721 006

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. (prisma)

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

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 GRANTS

EXPLORING THE HUMAN-WATER-ENERGY NEXUS IN INDUSTRIAL KITCHENS (NEXIK), 2022 - 2023

FCT, EXPLICCI-COM/1234/2021

<https://nexik.tecnico.ulisboa.pt>

FUTURE INDUSTRIAL KITCHEN (FIK), 2018 - 2019

Madeira 14-20 / FEDER, MI420-01-0247-FEDER-000018

<https://futurekitchen.m-iti.org>

SMART ISLAND ENERGY SYSTEMS (SMILE), 2017 - 2021

Horizon 2020, GA 731249

<https://www.h2020smile.eu>

SME INSTRUMENT - PHASE 1, 2015 - 2016

Horizon 2020, SME Instrument

TEACHING EXPERIENCE

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

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 (Técnico Lisboa) (Funded by FCT)

ONGOING MASTER STUDENTS

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)

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.

FÁBIO BASSOI (COMPUTER SCIENCE AND ENGINEERING, TÉCNICO LISBOA, U. LISBON), 2022/2023

Thesis: Web-based application to create large-scale datasets through crowd-sourcing and data-driven models of EV charging and appliance electricity consumption.

GONÇALO DE MORAIS (ELECTRICAL AND COMPUTER ENGINEERING, TÉCNICO LISBOA, U. LISBON), 2022/2023

Thesis: Machine Learning Applications in Industrial Kitchens: Monitoring and Disaggregation. In co-supervision with Hugo Morais (Técnico Lisboa, U. Lisbon)

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)

GRADUATED MASTER STUDENTS

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) | Now at INESC-ID

MANUEL PEREIRA (INFORMATICS ENGINEERING, UNIVERSITY 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) | Now at INESC-ID

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

FRANCESCA MARCELLO (ELECTRONIC AND COMPUTER ENGINEERING, UNIVERSITY OF CAGLIARI, 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

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

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: since 2016

Elsevier Advanced Engineering Informatics: since 2019

Elsevier Applied Energy: since 2019

Elsevier Building Engineering: Since 2021

Elsevier Electric Power Systems Research: since 2021

Elsevier Energy and AI: since 2020

Elsevier Energy and Buildings: since 2017

Elsevier International Journal of Electrical Power and Energy Systems: since 2018

Elsevier Sustainable Cities and Society: since 2020

Elsevier Sustainable Energy, Grids and Networks, since 2023

IEEE Access: since 2019

IEEE Journal of Modern Power Systems and Clean Energy: since 2020

IEEE Transactions on Consumer Electronics: since 2022

IEEE Transactions on Green Communications and Networking: since 2022

IEEE Transactions on Industrial Informatics: since 2019

IEEE Transactions on Instrumentation & Measurement: since 2021

IEEE Transactions on Smart Grid: since 2020

MDPI Buildings: since 2015

MDPI Energies: since 2013

MDPI Sensors: since 2012

MDPI Sustainability / Technologies / Urban Science / Smart Cities / Future Internet: since 2018

Nature Scientific Data: since 2020

Nature Scientific Reports: since 2022

Wiley International Journal of Energy Research: since 2020

REVIEWER IN CONFERENCES

Annual Conference of the IEEE Industrial Electronics Society - IECon 2021

International ACM Conference on Automotive User Interfaces and Interactive Vehicular Applications - AutoUI 2021

ACM International Conference on Information Technology for Social Good - GoodIT 2021 - 2023

ACM Conference on Designing Interactive Systems - DIS 2020, 2023

IEEE International Conference on Artificial Intelligence and Virtual Reality - AIVR 2018 - 2021

IEEE International Conference on Smart Computing - SmartComp 2018 - 2020

IFIP Conference on Sustainable Internet and ICT for Sustainability - SustainIT 2017

IEEE PES Power Africa Conference - PowerAfrica 2017 - 2019

ACM Conference on Computer-Supported Cooperative Work and Social Computing - CSCW 2017 - 2019

ACM Conference on Intelligent User Interfaces - IUI 2015 - 2023

ACM International Conference on Embedded Systems for Energy-Efficient Buildings - BuildSys 2014

ACM CHI Conference on Human Factors in Computing Systems - CHI 2014, 2015, 2023

ACM SIGCHI Conference on Mobile Human-Computer Interaction - Mobile HCI 2012, 2013

ACM SIGCHI Symposium on Engineering Interactive Computing Systems - EICS 2014, 2015, 2023

ACM SIGCHI Symposium on User Interface Software and Technology - UIST 2014

International Conference on ICT for Sustainability - ICT4S 2014

ACM Nordic Conference on Human-Computer Interaction - NordiCHI 2014

REVIEWER IN WORKSHOPS

International Workshop on Non-Intrusive Load Monitoring - NILM Workshop 2016, 2020, 2022

ACM Workshop On Embedded Systems For Energy-Efficient Buildings - BuildSys 2012, 2013

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

EDITOR IN JOURNALS

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 IWOB1 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

IEEE International Conference on Artificial Intelligence and Virtual Reality - AIVR 2018 - 2021

ACM Conference on Intelligent User Interfaces - IUI 2017 - 2023

IEEE International Conference on Smart Computing - SmartComp 2018 - 2020

International Workshop on Non-Intrusive Load Monitoring - NILM Workshop 2016, 2020, 2022
International Conference on Smart Cities and Green ICT Systems - SMARTGREENS 2024

TECHNICAL SESSION CHAIR:

IEEE International Conference on Industrial Informatics - INDIN 2023

International Workshop on Non-Intrusive Load Monitoring - NILM Workshop 2018, 2022

IEEE Energy and Sustainability in Small Developing Economies - ES2DE 2017

PUBLICATIONS

JOURNALS

1. 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: 10.3390/en16041611
2. 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: 10.1016/j.jup.2022.101477
3. Amantegui, J., Morais, H., **Pereira, L. (2022)** "Benchmark of Electricity Consumption Forecasting Methodologies Applied to Industrial Kitchens," *Buildings, MDPI*, doi: 10.3390/buildings12122231
4. 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: 10.1109/TII.2022.3206322
5. 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: 10.3390/s22186914
6. Fiqueli, Z., **Pereira, L. (2022)** "Privacy Protection in Smart Meters using Homomorphic Encryption: an overview", *WIREs Data Mining and Knowledge Discovery, Wiley*, doi: 10.1002/widm.1469
7. **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: 10.1038/s41598-022-14517-y
8. 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: 10.3390/en15103543
9. **Pereira, L.**, Costa, D., Ribeiro, M. (2022) "A residential labeled dataset for smart meter data analytics", *Scientific Data, Nature*, doi: 10.1038/s41597-022-01252-2
10. 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: 10.1109/TSG.2022.3148699
11. 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: 10.1016/j.enbuild.2021.111618
12. 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: 10.3390/en14185786
13. **Pereira, L.**, Aguiar, V., Vasconcelos, F. (2021) "FIKWATER: A Water Consumption Dataset from Three Restaurant Kitchens in Portugal", *Data, MDPI*, doi: 10.3390/data6030026
14. **Pereira, L.**, Aguiar, V., Vasconcelos, F. (2021) "FIKWASTE: A Waste Generation Dataset from Three Restaurant Kitchens in Portugal", *Data, MDPI*, doi: 10.3390/data6030025

15. 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: 10.3390/en14030719
16. **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: 10.3390/app10207366
17. **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: 10.1016/j.scs.2020.102399
18. 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: 10.1109/TSG.2020.3010621
19. Faustine, A., **Pereira, L. (2020)** "Multi-label Learning for Appliance Recognition in NILM using Fryze-Current Decomposition and Convolutional Neural Network", *Energies*, MDPI, doi: 10.3390/en13164154
20. Faustine, A., **Pereira, L. (2020)** "Improved Appliance Classification in Non-Intrusive Load Monitoring Using Weighted Recurrence Graph and Convolutional Neural Networks", *Energies*, MDPI, doi: 10.3390/en13133374
21. Câmara, E., **Pereira, L. (2020)** "PB-NILM: PinBall Guided Deep Non-Intrusive Load Monitoring", *Access, IEEE*, doi: 10.1109/ACCESS.2020.2978513
22. 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: 10.1109/TPWRS.2020.2969978
23. **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: 10.1016/j.egyr.2019.11.025
24. **Pereira, L. (2019)** "NILMPEds: A Performance Evaluation Dataset for Event Detection Algorithms in Non-Intrusive Load Monitoring", *Data*, MDPI, doi: 10.3390/data4030127
25. Pereira, M., Velova, N., **Pereira, L. (2019)** "dsCleaner: A Python Library to Clean, Preprocess and Convert Non-Intrusive Load Monitoring Datasets", *Data*, MDPI, doi: 10.3390/data4030123
26. 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: 10.1007/s00521-018-3832-3
27. 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: 10.3390/en11092460
28. **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: 10.1002/widm.1265
29. Scott, M., **Pereira, L.**, Oakley, I. (2014) "Show Me or Tell Me: Designing Avatars for Feedback", *Interacting with Computers*, Oxford Academic, doi: 10.1093/iwc/iwu008
30. 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: 10.1016/j.chb.2014.07.042

CONFERENCES

31. 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*
32. **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*
33. 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*
34. 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*
35. 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*
36. 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*
37. 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*
38. 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*
39. 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]
40. **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*
41. 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*
42. 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*
43. **Pereira, L.**, Gonçalves, R., Quintal, F., Nunes, N.J. (2018) "Data Storage and Maintenance Challenges: The Case of Advanced Metering Infrastructure Systems", in *Proceedings of the International Conference of ICT for Sustainability 2018, ICT4S '18*
44. **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*
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46. **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
47. 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]
48. **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
49. 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
50. 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]
51. **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
52. **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
53. **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]
54. 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
55. 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

56. 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
57. 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
58. 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
59. 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
60. 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

61. 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*
62. **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*
63. 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, POSTER AND DEMO ABSTRACTS

64. 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]
65. **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]
66. 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]
67. **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* [poster]
68. 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* [poster]
69. 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]
70. **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]
71. **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]
72. 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]
73. **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]
74. **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]
75. Quintal, F., **Pereira, L.**, Jorge, C. and Nunes, N.J. (2015) "EnerSpectrum: Exposing the source of energy through plug-level eco-feedback" In *Proceedings of the Fourth IFIP Conference on Sustainable Internet and ICT for Sustainability, SustainIT '15* [poster]

76. **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]
77. Quintal, F., **Pereira, L.**, Nunes, N. and Nivi, V. (2014) "What a watt: Where does my electricity come from?", In *Adjunct Proceedings of the International Working Conference on Advanced Visual Interfaces, AVI '14* [demo]
78. **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]
79. 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]
80. 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]
81. 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

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

SELECTED TALKS

1. "SMILE -Smart Island Energy Systems" (2021), Island Energy Transition Experience in H2020 Projects - Chapter 1 DSM, Flexibility and Energy Management, Online
2. "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
3. "Furthering Energy and Environment Research at ITI/LARSyS" (2019), University of Klagenfurt, Klagenfurt, Austria
4. "SoCoL: Semi-automatic Collaborative Labelling for NILM datasets" (2018), European Non-Intrusive Load Monitoring Workshop, Duisburg, Germany

ACADEMIC VISITS

1. Visiting researcher at the University of Cagliari, Cagliari, Italy (April 2022)
2. École Normale Supérieure – PSL Université Paris, (December 2019)
3. Visiting researcher at the University of Klagenfurt, Klagenfurt, Austria (September 2019)

ACADEMIC SERVICE

MANAGEMENT OF SCIENCE AND TECHNOLOGY

1. Member of the ITI/LARSyS Scientific Committee, 2020 - 2023

PARTICIPATION AS A MEMBER OF COMPETITIVE ADMISSIONS

1. Agencia Nacional de Investigación y Desarrollo (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]