



News from the Fence



CMU Portugal 2023 Doctoral Symposium

Date: December 6 and 7, 2023

Location: Culturgest, Lisbon (Portugal) and Scott Hall, CMU (Pittsburgh)

The CMU Portugal Program will host on December 6th and 7th, its 2023 Doctoral Symposium with the main objective of fostering a supportive community for all researchers pursuing their Ph.D. under the scope of

CMU Portugal initiatives. All CMU Portugal Ph.D. candidates are invited to present their research in a 10-minute presentation or poster format. The invitation to attend the event is extended to the whole CMU Portugal community, including students, researchers, faculty, partners from Industry, non-corporate entities, and Institutions of the Portuguese R&D System that are a key part of the Program.

More on the [Symposium Website](#).

Registration

CMU Portugal welcomes six new Dual Degree Ph.D. Students

The CMU Portugal Program welcomes six new Dual Degree Ph.D. candidates for the 2023/2024 academic year. The new Ph.D. students will be funded by Fundação para a Ciência e a Tecnologia (FCT) and will start their journey in September 2023, embarking on a full-time program split between 2 years at Carnegie Mellon University (CMU) and 3 years at a Portuguese university.



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FCT under the scope of the CMU Portugal Program.

Six new exploratory projects selected under the CMU Portugal 2022 Call

The six new Exploratory projects funded by Fundação para a Ciência e Tecnologia (FCT) will focus on ICT related areas ranging from digital health technologies to internet intervention to detect, treat, and monitor anxiety and depression in breast cancer survivors, bioelectronic implants, neural probes, distributed networks, and automatic evaluation of graphics based on machine learning.

The 2022 call for proposals featured a total of 36 projects, 6 of which were recommended for funding by

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Eco-friendly conductive ink promises to revolutionize the production of soft stretchable electronic circuits

Researchers at the Faculty of Science and Technology of Universidade de Coimbra (FCTUC) and Carnegie Mellon University, including CMU Portugal Dual Degree Ph.D. student Manuel Reis Carneiro, developed a water-based conductive ink tailored for producing flexible electronic circuits.

The technique, developed with CMU Portugal's support, sidesteps the necessity of employing conventional

organic solvents, renowned for their detrimental environmental impact due to pollution and toxicity. The results have been published in the scientific journal *Advanced Science*.

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In the media: PocketQube – small and low cost cubic satellites that can go into space

CMU Portugal Exploratory Research project PROMETHEUS was featured in the online and printed edition of Exame Informática, a Portuguese Magazine on the latest technology advancements. The project was also highlighted on the TV show Exame Informática, transmitted in the Portuguese TV Channel SIC Notícias.

The project, led by Alexandre Ferreira da Silva at Universidade do Minho in collaboration with Técnico (NanosatLab) and CMU, is developing 5cm

cubic satellites to provide easy access to space for the research and education community.

[Full article \(in Portuguese\)](#)

[Video Exame Informática](#)

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TAMI – Transparent Artificial Medical Intelligence – final event

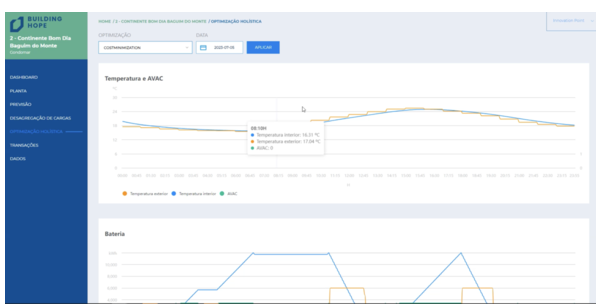
TAMI, a CMU Portugal Large Scale Project, has been focused on using AI to help make medical diagnosis clearer and more reliable. The three-year initiative has been able to develop a decision-supporting platform for the diagnosis of health complications such as cervical cancer, lung diseases and eye diseases.

In a final event at UPTEC (Porto), the project's consortia led by First Solutions, in collaboration with Fraunhofer Portugal, INESC TEC and ARS Norte, shared the project's main achievements.

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Using AI Towards a cleaner energy future: Building Hope Closing event

The CMU Portugal Large Scale Collaborative Project "Building Hope" concluded its journey with a closing session in July. This online event brought together more than 50 participants to discuss the project's latest advancements in energy management.

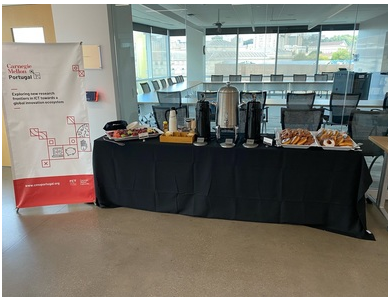


Funded through PT2020 and FCT under the CMU Portugal Program, Building HOPE – Building Holistic Optimization of Prosumed Energy – aimed to revolutionize energy management practices in smart urban environments.

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Welcome Back event to students in Pittsburgh

The CMU Portugal Program held a Welcome Back event on September 19th addressed to all students spending this next semester in Pittsburgh. From the 23 students currently attending the Fall semester at Carnegie Mellon, 10 attended the event and stopped by to grab coffee & donuts, while meeting other CMU Portugal colleagues.



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13th Lisbon Machine Learning School gathers 170 participants in Lisbon



The 2023 edition of the Lisbon Machine Learning Summer School (LxMLS 2023) was held in July, bringing together more than 170 students for an intensive week focused on exploring the realms of machine learning (ML) and natural language processing (NLP). Once again, CMU Portugal Program has supported this event, continuing the strong connection with this annual event,

which has now spanned over a decade.

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CMU Portugal Inside Story: Maria Eduarda Andrada

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Faculdade de Ciências da Universidade de Coimbra (FCTUC) and will spend her research year (spring and fall of 2023) at the Robotics Institute supervised by George Kantor. Maria Eduarda has also been part of CMU Portugal Large Scale project Safeforest which ended in 2023 and was led by her CMU host.

Currently in Pittsburgh, she shared her experience thus far and what she is looking for the rest of her stay at CMU.

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Upcoming events



- [ERC Portugal Pre-assessment - "Consolidator Grant 2024"](#) | October 12 | Online
- [Applications for New COST Actions](#) | Deadline: October 25 | Online
- [ER 2023 "International Conference on Conceptual Modeling"](#) | Nov. 6-9 | Técnico (Alameda, Lisbon)
- [@CMUPortugal Talk with Hirokazu Shirado \(CMU\)](#) | Factory Lisbon at Hub do Beato
- [DUT Call 2023 - DRIVING URBAN TRANSITIONS](#) | Nov. 21 | Online
- [Clean Energy Transition Partnership 2023 Call](#) | Nov. 22 | Online
- [CMU Portugal 2023 Doctoral Symposium](#) | 6-7 December | Culturgest (Lisbon) and CMU (Pittsburgh)

CMU Portugal Publications



Papers

- [A. Abraray, R. A. M. Pereira, K. Kaboutari and S. Maslovski](#), "Realization of Programmable Chessboard Mushroom-type Metasurface for Beamforming Applications," 2023 Photonics & Electromagnetics Research Symposium (PIERS), Prague, Czech Republic, 2023, pp. 1909-1913.
- [Andrada, M. E., Russell, D., Arevalo-Ramirez, T., Kuang, W., Kantor, G., & Yandun, F.](#) (2023). Mapping of Potential Fuel Regions Using Uncrewed Aerial Vehicles for Wildfire Prevention. *Forests*, 14(8), 1601. <https://doi.org/10.3390/f14081601>
- [Castro, J., Laranjeiro, N., & Vieira, M.](#) (2023). Techniques and Tools for Runtime Security Monitoring and Analysis of Microservices. 2023 53rd Annual IEEE/IFIP International Conference on Dependable Systems and Networks - Supplemental Volume (DSN-S), 191–193.
- [Eskander, M. M., & Silva, C. A.](#) (2023). Techno-economic and environmental comparative analysis for DC microgrids in households: Portuguese and French household case study. *Applied Energy*, 349, 121495.
- [Fernandes, P., Deutsch, D., Finkelstein, M., Riley, P., Martins, A. F. T., Neubig, G., Garg, A., Clark, J. H., Freitag, M., & Firat, O.](#) (2023). The Devil is in the Errors: Leveraging Large Language Models for Fine-grained Machine Translation Evaluation.
- [Ferreira, J. F., Portugal, D., Andrada, M. E., Machado, P., Rocha, R. P., & Peixoto, P.](#) (2023). Sensing and Artificial Perception for Robots in Precision Forestry: A Survey. *Robotics*, 12(5), 139.
- [Ferreira, R., Semedo, D., & Magalhães, J.](#) (2023). Grounded Complex Task Segmentation for Conversational Assistants. <https://arxiv.org/pdf/2309.11271.pdf>
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- [Fonseca, R. G., Hajjilou, A., Freitas, M., Kuster, A., Parvini, E., Serra, A. C., Coelho, J. F. J., Fonseca, A. C., & Tavakoli, M. \(2023\).](#) Photodegradable Non-Drying Hydrogel Substrates for Liquid Metal Based Sustainable Soft-Matter Electronics. *Advanced Materials Technologies*, 8(19).
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- [He, R., Small, M. J., Scott, I. J., Olarinre, M., Sandoval-Reyes, M., & Ferrão, P. \(2023\).](#) A Novel Domain Knowledge-Informed Machine Learning Approach for Modeling Solid Waste Management Systems. *Environmental Science & Technology*.
- [Hosseini, V., Shapour, F., Pinho, P., Farhang, Y., Majidzadeh, K., Ghobadi, Ch., Nourinia, J., Barshandeh, S., Shokri, M., Amiri, Zh., Jalilrad, M., & Kaboutari, K. \(2023\).](#) Dual-Band Planar Microstrip Monopole Antenna Design Using Multi-Objective Hybrid Optimization Algorithm. *2023 Photonics & Electromagnetics Research Symposium (PIERS)*, 467–475.
- [Karacsony, T., Jeni, L. A., De La Torre Frade, F., & Cunha, J. P. S. \(2023\).](#) Deep Learning Methods for Single Camera Based Clinical In-bed Movement Action Recognition (Version 1). *TechRxiv*.
- [Kaboutari, K., Maslovski, S., Shokri, M., Amiri, Zh., Ghobadi, Ch., & Nourinia, J. \(2023\).](#) Analytical Models and Equivalent Networks of MED Antennas. *2023 Photonics & Electromagnetics Research Symposium (PIERS)*, 115–121.
- [Ma S., Nisi V., Zimmerman J., Nunes N. \(2023, October 9\).](#) Mapping the Research Landscape of the Gig Work for Design on Labour Research. *IASDR 2023: Life-Changing Design*.
- [Maggipinto, B., Ainsworth T., Nisi V., Fox S., Nunes N. \(2023, October 9\).](#) Aqueous logics: Towards a hydro feminism approach to sustainability. *IASDR 2023: Life-Changing Design*.
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- [Mendonça, J., Pereira, P., Moniz, H., Carvalho, J. P., Lavie, A., & Trancoso, I. \(2023\).](#) Simple LLM Prompting is State-of-the-Art for Robust and Multilingual Dialogue Evaluation.
- [Parvini, E., Hajjilou, A., Lopes, P. A., Silva, A. F., Tiago, M. S. M., Fernandes, P. M. P., de Almeida, A. T., & Tavakoli, M. \(2023\).](#) 3R Batteries: Resilient, Repairable, and Recyclable Based on Liquid Gallium Electrode. *Advanced Materials Technologies*.
- [Pereira, J., Kurunathan, H., Filho, E., & Santos, P. M. \(2023\).](#) Edge-Aided V2X Collision Avoidance with Platoons: Towards a Hybrid Evaluation Toolset. *2023 53rd Annual IEEE/IFIP International Conference on Dependable Systems and Networks Workshops (DSN-W)*, 68–71.
- [Pinheiro, J. M., Filho, Ê. v., Santos, P. M., & Almeida, L. \(2023\).](#) An ETSI ITS-enabled Robotic Scale Testbed for Network-Aided Safety-Critical Scenarios. *2023 53rd Annual IEEE/IFIP International Conference on Dependable Systems and Networks Workshops (DSN-W)*, 52–59.
- [Ramos, D., Mitchell, H., Lynce, I., Manquinho, V., Martins, R., & Goues, C. le. \(2023\).](#) MELT: Mining Effective Lightweight Transformations from Pull Requests.
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- [Tavares, D., Azevedo, P., Semedo, D., Sousa, R., & Magalhães, J. \(2023\).](#) Task Conditioned BERT for Joint Intent Detection and Slot-filling.
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- [Valdeira, P., Chi, Y., Soares, C., & Xavier, J. \(2023\).](#) A Multi-Token Coordinate Descent Method for Semi-Decentralized Vertical Federated Learning.
- [Valente, P., Fornelos, T., Ferreira, R., Silva, D., Tavares, D., Correia, N., Magalhães, J., & Nóbrega, R. \(2023\).](#) Beyond Browser Online Shopping: Experience Attitude Towards Online 3D Shopping with Conversational Agents (pp. 257–276).
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- [Zimmerman, C., Gamboa, C., Fonseca, A., & Aldrich, J. \(2023\).](#) Latte: Lightweight Aliasing Tracking for Java.

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