
CURRICULUM VITAE

Pedro Miguel Salgueiro dos Santos

April 15, 2024

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Personal Information

Full name	Pedro Miguel Salgueiro dos Santos
Name in bibliography	Pedro Miguel Santos
Date of birth	February 13, 1986
Place of birth	Porto, Portugal
Parents	Clementina Fernanda Salgueiro da Silva José Miguel Lopes Vieira dos Santos
ID document number	13004052-5ZY9
Civil state	Single
E-mail	pedromsds@gmail.com
Phone	00351 93 321 81 15
Skype	pedro.mss
Address	Rua da Aldeia Nova 91, Hab.2, 4475-307 Maia, Portugal
Personal webpage	https://pmssantos.github.io
Habilitations	Ph.D in Electrical and Computer Engineering, University of Porto, May 2017 B.Sc./M.Sc. in Electrical and Computer Engineering, University of Porto, July 2009
Professional Activity	Assistant Researcher, Research Centre in Real-Time and Embedded Computing Systems (CISTER) Instituto Superior de Engenharia do Porto (ISEP) (Web: https://www.cister.isep.ipp.pt/people/pedro_miguel_santos/) Invited Assistant Lecturer Faculdade de Engenharia da Universidade do Porto (FEUP).
Past Affiliations	Instituto de Telecomunicações, Portugal
<u>Online Presence</u>	
ORCID	orcid.org/0000-0002-7162-0560
Scopus	https://www.scopus.com/authid/detail.uri?authorId=57195194993
Google Scholar	https://scholar.google.pt/citations?user=PWGti5IAAAAJ
Web of Science ResearcherID	AAJ-7540-2020 - https://publons.com/researcher/3062034/pedro-m-santos/
Ciencia Vitae	9F14-3CD7-F5DE - https://www.cienciavitae.pt//pt/9F14-3CD7-F5DE
Research Gate	https://www.researchgate.net/profile/Pedro_Santos70

Introduction

This document serves as a curriculum vitae of the competences, activities and achievements of scientific, pedagogic and of other nature of Pedro Miguel Salgueiro dos Santos, Ph.D. in Electrical and Computer Engineering by the Universidade do Porto, Portugal, assistant researcher at the Research Centre in Embedded and Real-Time Computing Systems, Instituto Superior de Engenharia do Porto, and invited assistant lecturer at the Faculdade de Engenharia da Universidade do Porto, Portugal.

All documents authored by the candidate are available online via hyperlinks. Certificates for all mentioned positions and activities can be provided. The following table maps the evaluation criteria of the call notice into sections of this document.

Evaluation Criteria	#
Desempenho Científico	Chap.1
C11 - Produção científica	Sec.1.1
C12 - Participação em projetos científicos	Sec.1.2
C13 - Intervenção na comunidade científica	Sec.1.3
C14 - Constituição de equipas científicas e orientação de estudantes de doutoramento e de bolsiros de pós-doutoramento	Sec.1.4
Capacidade Pedagógica	Chap.2
C21 - Coordenação de projetos pedagógicos	Sec.2.1
C22 - Atividade letiva	Sec.2.2
C23 - Orientação de estudantes em trabalhos finais de licenciatura e dissertações de mestrado	Sec.2.3
Outras Atividades Relevantes	Chap.3
C31 - Divulgação de ciência e tecnologia	Sec.3.1

The documents requested in point 2.3-e) of the call notice can be found in Appendix A.

The fulfilment of the requirements in point 4.1 of the call notice can be verified in Scopus (<https://www.scopus.com/>) with a search for "ORCID = 0000-0002-7162-0560".

Chapter 1

Scientific Activity

1.1 Scientific Production

As per criterion C11 of the evaluation criteria - Produção científica
(Back to [mapping table](#))

1.1.1 Impact in Scientific and Academic Communities

1. Citation count (as of January 2024):

Scopus	Web of Science	Google Scholar
199 citations	151 citations	474 citations*

The procedures to obtain these values are explained in Appendix ??, *Citation Count Procedure*.

2. Journal publications indexed in WoS and Scopus and respective SCIMAGO's Quartile index

Metric Categories	Indexed Journals		SCIMAGO Quartiles	
	Scopus	WoS	Q1	Q2
# publications (out of 12 total)	11	11	6	6

1.1.2 Theses

San2017a: P. M. Santos. [Wireless Protocols and Channel Estimation for Data Gathering with Mobile Nodes](#). Ph.D. thesis, University of Porto, May 2017.

San2009: P. M. Santos. [Stereoscopic Hand-Detection System based on FPGA](#). Master thesis, University of Porto, July 2009.

Video of the system: <https://www.youtube.com/watch?v=2fsh8o-3cpQ>.

*Including self-citations

1.1.3 Articles in International Journals with Peer-Review

1. [San2024a] Pedro d'Orey, Miguel G. Gaitán, Luís Almeida, Pedro M. Santos, . *Assessing Short-Range Shore-to-Shore (S2S) and Shore-to-Vessel (S2V) WiFi Communications*. Accepted for publication at Computer Networks (minor revisions).
[Scopus-indexed](#)
SCIMAGO *Quartile* 2022 = 1st (Computer Networks and Communications)
WoS *Journal Citation Report* 2022 Impact Factor = 5.6
2. [San2024b] Radha Reddy, Luís Almeida, Harrison Kurunathan, Miguel G. Gaitán, Pedro M. Santos, Eduardo Tovar. *Worst-Case Response Time of Mixed Vehicles at Complex Intersections*. Accepted for publication at IEEE Open Journal of Intelligent Transportation Systems, March 2024.
[Scopus-indexed](#)
SCIMAGO *Quartile* 2022 = 2nd (Computer Science Applications)
WoS *Journal Citation Report* 2022 Impact Factor = 2.600
3. [San2024c] Miguel G. Gaitán, Luís Almeida, Pedro d'Orey, Pedro M. Santos, Thomas Watteyne. *Minimal-Overlap Centrality for Multi-Gateway Designation in Real-Time TSCH Networks*. ACM Transactions on Embedded Computing Systems, January 2024.
[Scopus-indexed](#)
SCIMAGO *Quartile* 2022 = 2nd (Hardware and Architecture; Software)
WoS *Journal Citation Report* 2021 Impact Factor = 1.886
4. [San2023b] Radha Reddy, Pedro Miguel Santos, Luís Almeida, Eduardo Tovar. *Synchronous Management of Mixed Traffic at Signalized Intersections towards Sustainable Road Transportation*. IEEE Access, May 2023.
[Scopus-indexed](#)
SCIMAGO *Quartile* 2022 = 1st (Computer Science)
WoS *Journal Citation Report* 2021 Impact Factor = 3.476
5. [San2023c] Enio Filho, Pedro Miguel Santos, Ricardo Severino, Anis Koubâa, Eduardo Tovar. *Co-operative Vehicular Platooning: A Multi-Dimensional Survey Towards Enhanced Safety, Security and Validation*. Taylor & Francis Cyber-Physical Systems, May 2023.
SCIMAGO *Quartile* 2022 = 2nd (Computational Mechanics)
6. [San2022a] Enio Filho, Ricardo Severino, Pedro Miguel Santos, Anis Koubâa, Eduardo Tovar. *Improving the Performance of Cooperative Platooning With Restricted Message Trigger Thresholds*. IEEE Access, April 2022.
[Scopus-indexed](#)
SCIMAGO *Quartile* 2022 = 1st (Computer Science)

WoS *Journal Citation Report* 2021 Impact Factor = 3.476

7. [San2022b] Miguel G. Gaitán, Pedro d'Orey, José Cecílio, Marta Rodrigues, Pedro Miguel Santos, Luis Pinto, Anabela Oliveira, António Casimiro, Luís Almeida. *Modeling LoRa Communications in Estuaries for IoT Environmental Monitoring Systems*. IEEE Sensors Journal, 2022.

Scopus-indexed

SCIMAGO *Quartile* 2022 = 2nd (Electrical and Electronic Engineering)

WoS *Journal Citation Report* 2021 Impact Factor = 4.325

8. [San2019a] Aqsa Aslam, Pedro M. Santos, Frederico Santos, Luís Almeida. *Empirical Performance Models of MAC Protocols for Cooperative Platooning Applications*. MDPI Electronics, Open Access, 2019, Vol. 8, n.11, pp.1334, 12 November 2019.

Scopus-indexed

SCIMAGO *Quartile* 2022 = 2nd (Computer Networks and Communications)

WoS *Journal Citation Report* 2021 Impact Factor = 2.690

9. [San2018a] Pedro M. Santos, Leonid Kholkina, André Cardote, Ana Aguiar. *Context Classifier for Position-based User Access Control to Vehicular Hotspots*. Elsevier Computer Communications, March 2018.

Scopus-indexed

SCIMAGO *Quartile* 2022 = 1st (Computer Networks and Communications)

WoS *Journal Citation Report* 2021 Impact Factor = 5.047

10. [San2018b] Pedro M. Santos, João G. P. Rodrigues, Susana B. Cruz, Tiago Lourenço, Pedro M. d'Orey, Yuniur Luis, Cristina Rocha, Susana Sousa, Sérgio Crisóstomo, Cristina Queirós, Susana Sargento, Ana Aguiar, João Barros. *PortoLivingLab: an IoT-based Sensing Platform for Smart Cities*. IEEE Internet-of-Things Journal, January 2018.

Scopus-indexed

SCIMAGO *Quartile* 2022 = 1st (Computer Science Applications)

WoS *Journal Citation Report* 2021 Impact Factor = 10.238

11. [San2014] Pedro M. Santos, Traian E. Abrudan, Ana Aguiar, João Barros. *Impact of Position Errors on Path Loss Model Estimation for Device-to-Device Channels*. IEEE Transactions on Wireless Communications, Vol.13, No.5, pp.2353-2361, May 2014.

Scopus-indexed

SCIMAGO *Quartile* 2022 = 1st (Electrical and Electronic Engineering)

WoS *Journal Citation Report* 2021 Impact Factor = 8.346

12. [San2013a] Pedro M. Santos, João Canas Ferreira, José Silva Matos. *Scalable Hardware Architecture for Disparity Map Computation and Object Location in Real-Time*. Journal of Real-Time Image Processing, Vol. 11, n.3, pp.473-485, Springer, March 2016 (first online on June 2013).

Scopus-indexed

SCIMAGO *Quartile* 2022 = 2nd (Information Systems)

WoS *Journal Citation Report* 2021 Impact Factor = 2.293

1.1.4 Articles in International Conferences with Peer-Review

1. [San2023d] Pedro Vicente, Pedro M. Santos, Barikisu Asulba, Nuno Martins, Joana Sousa, Luis Almeida. *Comparing Performance of Machine Learning Tools across Computing Platforms*. In Proceedings of 18th Conference on Computer Science and Intelligence Systems (FedCSIS 2023), 18 September 2023, Warsaw, Poland.
2. [San2023e] J.M. Pinheiro, Ê.V. Filho, P.M. Santos, L. Almeida. *An ETSI ITS-enabled Robotic Scale Testbed for Network-Aided Safety-Critical Scenarios*. In Proceedings of Safety and Security of Intelligent Vehicles (SSIV) workshop, co-located with IEEE DSN 2023, 27 June 2023, Porto, Portugal.
3. [San2023f] J. Pereira, H. Kurunathan, E.V. Filho, P.M. Santos. *Edge-Aided V2X Collision Avoidance with Platoons Towards a Hybrid Evaluation Toolset*. In Proceedings of Safety and Security of Intelligent Vehicles (SSIV) workshop, co-located with IEEE DSN 2023, 27 June 2023, Porto, Portugal.
4. [San2023g] R. Reis, P.M. Santos, P.F. Souto, N. Martins, J. Sousa, J.M. Ferreira, L. Almeida. *LEM: a Tool for Large-Scale Workflow Control in Edge-based Industry 5.0 Applications*. In Proceedings of the IEEE DCOSS conference 2023 – IoT-I5 workshop, 19-21 June 2023, Paphos, Cyprus.
5. [San2023h] B. Asulba, Y. Zhang, N. Schumacher, P.F. Souto, P.M. Santos, M. Sousa, N. Martins, J. Sousa, L. Almeida. *Impact of Training Set Size on Resource Usage of Machine Learning Models for IoT Network Intrusion Detection*. In Proceedings of the IoT-I5 workshop, part of IEEE DCOSS conference 2023, 19-21 June 2023, Paphos, Cyprus.
6. [San2023i] N. Schumacher, P.M. Santos, P.F. Souto, N. Martins, J. Sousa, J.M. Ferreira, L. Almeida. *One-Class Models for Intrusion Detection at ISP Customer Networks*. In Proceedings of the IFIP Artificial Intelligence Applications and Innovations (AIAI) 2023, 14-16 June 2023, León, Spain.
7. [San2023j] H.Kurunathan, J. Santos, D. Moreira, P.M. Santos. *Towards Safe Cooperative Autonomous Platoon systems using COTS Equipment*. In Proceedings of the 1st Smart Living and Communications for the Next Generations Networks workshop (SLICO), co-located with the 24th IEEE International Symposium on a World of Wireless, Mobile and Multimedia Networks (WoW-MoM), 12-15 June 2023, Boston, Massachussets, U.S.A.
Recipient of the **Best Paper Award**.
8. [San2023k] M. Araújo, J. Silva, P. M. Santos, H. Singh, D. Gunjal, J. Fonseca, P. Duarte, B. Mendes, Raul Barbosa, P. Steenkiste, S. Sabamoniri, L. Lam, J. Pereira, H. Kurunathan. *Demo Object detection under 5G-edge mobility*. In Proceedings of the 24th IEEE International Symposium on a World of Wireless, Mobile and Multimedia Networks (WoW-MoM), 12-15 June 2023, Boston, Massachussets, U.S.A..

9. [San2023i] Y. Zhang, B. Asulba, N. Schumacher, M. Sousa, P.F. Souto, L. Almeida, P.M. Santos, N. Martins and J. Sousa. *Implementing and Deploying an ML Pipeline for IoT Intrusion Detection with Node-RED*. In Proceedings of the Real-time And intelliGent Edge computing workshop (RAGE) 2023, co-located with CPS-IoT Week, 9 May 2023, San Antonio, Texas, USA.
10. [San2023m] M.C. Cunha, E.V. Filho, E. Tovar, P.M.Santos, S. Penna, F. Alves. *A WSSL Implementation for Critical Cyber-Physical Systems Applications*. In Proceedings of the Real-time And intelliGent Edge computing workshop (RAGE) 2023, co-located with CPS-IoT Week, 9 May 2023, San Antonio, Texas, USA.
11. [San2023n] S. Sabamoniri, P.M. Santos, L. Almeida. *An ETSI ITS-Compliant Formation Protocol to Support Long Heterogeneous Platoons*. In Proceedings of the 14th IEEE Vehicular Networking Conference (VNC 2023), 26-28 April 2023, Istanbul, Turkey.
12. [San2023o] R. Reddy, L. Almeida, P.M. Santos, E. Tovar. *Waiting Time Analysis for a Network of Signalized Intersections*. In Proceedings of the 14th International Conference on Ambient Systems, Networks and Technologies (ANT 23), 15-17 March 2023, Leuven, Belgium.
13. [San2022c] P. M. d'Orey, M. G. Gaitán, P. M. Santos, M. Ribeiro, J. B. Sousa, and L. Almeida. *Empirical Evaluation of Short Range WiFi Vessel to Shore Overwater Communications*. In Proceedings of the 16th ACM Workshop on Wireless Network Testbeds, Experimental evaluation & Characterization, Sydney NSW Australia, Oct. 2022, pp. 77–84.
14. [San2022d] M. G. Gaitán, P.M. d'Orey, P. M. Santos, and L. Almeida. *Minimal Overlap Centrality Driven Gateway Designation for Real Time TSCH Networks*. In Proceedings of the 59th Design and Automation Conference (DAC 2022), Real-time And intelliGent Edge computing workshop (RAGE), 10-14 Jul. 2022, San Francisco, U.S.A.
Recipient of the **Best Paper Award**.
15. [San2022e] M. G. Gaitán, T. Watteyne, P. M. d'Orey, P. M. Santos, and D. Dujovne. *Joint Scheduling Routing and Gateway Designation in Real Time TSCH Networks*. In Proceedings of the 30th International Conference on Real-Time Networks and Systems (RTNS 2022), JRWRTC, pp 16-19, 7-8 June 2022, Paris, France.
16. [San2022f] E.V. Filho, B. Mendes, P.M.Santos, R. Severino, E. Tovar. *Development of a Hardware in the Loop Ad-Hoc Testbed for Cooperative Vehicles Platooning*. In Proceedings of EAI INTSYS 2022 - 6th EAI International Conference on Intelligent Transport Systems, December 15-16, 2022, Lisbon, Portugal.
17. [San2021a] D. Almeida, M.G. Gaitán, P.M. d'Orey, P.M. Santos, L. Pinto, L. Almeida. *Demonstrating RA-TDMAs+ for robust communication in WiFi mesh networks*. Demo in 42nd IEEE Real-Time Systems Symposium (RTSS 2021), 7 December 2021, RTSS@Work, Dortmund, Germany.
18. [San2021b] R. Reddy, L. Almeida, M. G. Gaitán, P.M. Santos, E. Tovar. *Work-In-Progress: Worst-Case Response Time of Intersection Management Protocols*. In Proceedings of 42nd IEEE Real-Time Systems Symposium (RTSS 2021), 7 December 2021, RTSS@Work, Dortmund, Germany.

19. [San2021c] M.G. Gaitán, L. Almeida, P.M. Santos, L. Pinto, P.M. d'Orey, M. Ribeiro and J. Borges de Sousa. *Wireless radio link design for reliable near-shore communication with surface nodes on tidal waters*. In Proceedings of IEEE/MTS OCEANS 2021, 20-22 September 2021, San Diego – Porto, U.S.A.
20. [San2021d] P. M. Santos, J. C. Sousa, R. Morla, N. Martins, J. Tagaio, J. Serra, C. Silva, M. Sousa, P. Souto, L. L. Ferreira, J. Ferreira, L. Almeida. *Towards a Distributed Learning Architecture for Securing ISP Home Customers*. In Proceedings of the 1st Workshop on Distributed AI on Resource-Constrained Platforms (DARE) (co-located with AIAI 2021), 28 May 2021, online.
21. [San2021e] Anna Hristoskova, Nicolás González-Deleito, Sarah Klein, Joana Sousa, Nuno Martins, João Tagaio, João Serra, Carlos Silva, João Ferreira, Pedro M. Santos, Ricardo Morla, Luís Almeida, Baris Bulut, and Sencer Sultanoglu. *An Initial Analysis of the Shortcomings of Conventional AI and the Benefits of Distributed AI Approaches in Industrial Use Cases*. In Proceedings of the 1st Workshop on Distributed AI on Resource-Constrained Platforms (DARE) (co-located with AIAI 2021), 28 May 2021, online.
22. [San2020a] M. G. Gaitán, L. Almeida, P. M. Santos, P. M. Yomsi. *EDF scheduling and minimal-overlap shortest-path routing for real-time TSCH networks*. In Proceedings of the 2nd Workshop on Next Generation Real-Time Embedded Systems (NG-RES) (co-located with HiPEAC 2021), 20 January 2021, online.
23. [San2020b] P. M. Santos, M. Rosa, L. M. Pinto, L. Almeida. *Cooperative Bicycle Localization System via Ad Hoc Bluetooth Networks*. In Proceedings of the IEEE VNC 2020, 16-18 December 2020, online.
24. [San2020c] D. Martins, B. Parreira, P. M. Santos, S. Figueiredo. *NetButler:Voice-Based Edge/Cloud Virtual Assistant for Home Network Management*. In Proceedings of the EAI Edge-IoT 2020, 4 December 2020, online.
25. [San2020d] M. G. Gaitán, P. M. Santos, L. M. Pinto, L. Almeida. *Optimal antenna-height design for improved capacity on over-water radio links affected by tides*. In Proceedings of the IEEE OCEANS 2020: Singapore – U.S. Gulf Coast (OCEANS 2020), 5-14 October 2020, online.
26. [San2020e] R. Reddy, L. Almeida, P. M. Santos, E. M. Tovar. *Comparing the Ecological Footprint of Intersection Management Protocols for Human/Autonomous Scenarios*. In Proceedings of the 23rd IEEE International Conference on Intelligent Transportation Systems (ITSC 2020), 20-23 September 2020, online.
27. [San2020f] R. Reddy, L. Almeida, P. M. Santos, Samia Bouzefrane, E. M. Tovar. *Synchronous Intersection Management to reduce Time Loss*. In Proceedings of the 23rd EURO Working Group on Transportation Meeting (EWGT 2020), 16-18 September 2020, online.
28. [San2020g] M. G. Gaitán, P. M. Santos, L. M. Pinto, L. Almeida. *Experimental Evaluation of the Two-Ray Model for Near-Shore WiFi-based Network Systems Design*. In Proceedings of the IEEE 91st Vehicular Technology Conference (VTC2020-Spring), 25-27 May 2020, online.

29. [San2020h] M. G. Gáitan, P. M. Yomsi, P. M. Santos, L. Almeida. *Work-in-Progress: Assessing supply/demand-bound based schedulability tests for wireless sensor-actuator networks*. In Proceedings of the 2020 IEEE 16th International Conference on Factory Communication Systems (WFCS 2020), online (planned for Porto, Portugal), 27-29 April 2020.
30. [San2019b] P. M. Santos, L. M. Sousa, A. Aguiar: *Experimental Evaluation of Urban Points-of-Interest as Predictors of I2V 802.11 Data Transfers*. In Proceedings of the 2019 IEEE Smart Cities Conference, October 14-17 2019, Casablanca, Morocco.
31. [San2019c] P. M. d'Orey, P. M. Santos, J. Pintor, A. Aguiar: *Opportunistic Use of In-Vehicle Wireless Networks for Vulnerable Road User Interaction*. In Proceedings of the 2019 IEEE Intelligent Vehicles Symposium, June 9-12 2019, Paris, France.
32. [San2018c] P. M. Santos, L. Pinto, L. Almeida, A. Aguiar: *Characterization and Modeling of the Bicycle-Antenna System for the 2.4GHz ISM Band*. In Proceedings of the 2018 IEEE Vehicular Networking Conference, December 5-7 2018, Taipei, Taiwan.
33. [San2018d] E. Soares, P. M. Santos, L. Pinto, A. Aguiar, P. Brandão, R. Prior: Poster. *Poster: VoIP System for Bicycle Platoons*. In Proceedings of the 2018 IEEE Vehicular Networking Conference, December 5-7 2018, Taipei, Taiwan.
34. [San2018e] L. M. Sousa, P. M. Santos, A. Aguiar: *An Exploratory Study of Relations between Site Features and I2V Link Performance*. In Proceedings of the 2018 EAI Urb-IoT Conference, November 21-23 2018, Guimarães, Portugal.
35. [San2018f] A. Nguyen, P. M. Santos, M. Rosa, A. Aguiar: Poster. *Study on Solar-powered IoT Node Autonomy*. In Proceedings of the 4th IEEE International Smart Cities Conference, September 16-19 2018, Kansas City, MO, USA.
36. [San2018g] P.M. Santos, L. Pinto, A. Aguiar, L. Almeida. *A Glimpse at Bicycle-to-Bicycle Link Performance in the 2.4GHz ISM Band*. In Proceedings of 29th IEEE International Symposium on Personal, Indoor and Mobile Radio Communications (PIMRC 2018), September 9-12 2018, Bologna, Italy.
37. [San2016a] L. Kholkin, P.M. Santos, A. Cardote, A. Aguiar. *Detecting Relative Position of User Devices and Mobile Access Points*. In Proceedings of the XXth IEEE Vehicular Networking Conference (VNC 2016), December 8-10 2016, Columbus, OH, USA, pp.1-8.
Invited for extended version submission to Elsevier Computer Communications.
38. [San2016b] Y. Luis, P.M. Santos, T. Lourenço, C. Pérez-Penichet, T. Calçada, A. Aguiar. *UrbanSense: An Urban-scale Sensing Platform for the Internet of Things*. In Proceedings of the 2nd IEEE International Smart Cities Conference (ISC2 2016), September 12-15, 2016, Trento, Italy, pp.1-6.
Recipient of the **Best Student Paper Award**.
39. [San2015a] P.M. Santos, T. Calçada, S. Sargento, A. Aguiar, João Barros. *Experimental Characterization of I2V Wi-Fi Connections in an Urban Testbed*. In Proceedings of the 10th ACM MobiCom Workshop on Challenged Networks (CHANTS '15), September 7-11, 2015, Paris, France. ACM, New York, NY, USA, pp.5-8.

40. [San2015b] P. M. Santos, T. Calçada, D. Guimarães, T. Condeixa, S. Sargento, A. Aguiar, J. Barros. *Demo: Platform for Collecting Data From Urban Sensors Using Vehicular Networking*. In Proceedings of the 21st Annual International Conference on Mobile Computing and Networking (MobiCom). 2015. September 7-11, 2015, Paris, France. ACM, New York, NY, USA, pp.167-169.
Descriptive video: youtube.com/watch?v=Hqjx28hpuT8
41. [San2015c] P. M. Santos, T. Calçada, A. Sá, D. Guimarães, T. Condeixa, C. Pérez-Penichet, S. Sargento, A. Aguiar, J. Barros. *Experiments On Using Vehicles As Data Mules For Data Collection From Urban Sensors (Demo)*. In Proceedings of the 21st European Wireless Sensor Network Conference (EWSN), 2015, Porto, Portugal. ACM, New York, NY, USA, pp.167-169.
Published in adjunct conference proceedings.
42. [San2013b] L. Pinto, P.M. Santos, S. Crisóstomo, T. Abrudan, J. Barros. *On-the-Fly Deployment of Wireless Sensor Networks for Indoor Assisted Guidance*. In Proceedings of the 1th IEEE International Conference on Cyber-Physical Systems, Networks and Applications (CPSNA), August 19-20 2013, Taipei, Taiwan.
Published in annex to conference proceedings.
Video at national TV channel SIC: youtube.com/watch?v=QkvygFzJyLs&t=121.
43. [San2010a] P.M. Santos, J.C. Ferreira: Poster. *FPGA-based real-time disparity computation and object location*. In Proceedings of the 28th Norchip Conference. November 15-16 2010, Tampere, Finland.

1.1.5 Articles in National Conferences with Peer-Review

44. [San2021f] R. Reddy, L. Almeida, M.G. Gáitan, P.M. Santos, E. Tovar. *Sustainability Analysis of Complex Multi-Lane Intelligent Signalized Intersections*. Accepted at the Doctoral Congress in Engineering DCE 2019. Faculdade de Engenharia da Universidade do Porto, June 2020.
45. [San2019d] M.G.Gáitan, L.M.Pinto, P.M.Santos, L.Almeida. *On the Two-Ray Model Analysis for Overwater Links with Tidal Variations*. Poster presented at the Simpósio de Informática Inforum 2019, track CRC (Comunicações e Redes de Computadores). Universidade do Minho, Guimarães, September 2019.
46. [San2019e] M.G.Gáitan, L.M.Pinto, P.M.Santos, L.Almeida. *An Analysis of the Two-Ray Propagation Model to Support Near-Surface Overwater Wireless Sensor Networks Design*. Presented at the Doctoral Congress in Engineering DCE 2019. Faculdade de Engenharia da Universidade do Porto, June 2019.

1.1.6 Talks, Posters and Demonstrations

1. [San2022g] M.G. Gaitán, P.M. d'Orey, P.M. Santos, M. Ribeiro, L. Pinto, L. Almeida, J.Borges de Sousa. *Improving WiFi communication with surface nodes at near-shore on tidal waters* (abstract version of [San2021a]). Talk at the 31th RTCM Seminar. February 4, 2022. Online, Porto, Portugal.

2. [San2021f] M.G. Gáitan, P.M. Santos, L. Almeida. *Improving short to medium range communication over water tides: Why does height matters?*. Talk at the 29th RTCM Seminar. February 4, 2021. Online.
3. [San2020i] M.G. Gáitan, P.M. Santos, L. Almeida. *Real-Time Communication Support for Over-water Wireless Multi-hop Networks*. Presented at 7th Barcelona Supercomputing Center Severo Ochoa Doctoral Symposium (BSC SO Doctoral Symposium 2020), 5 May 2020, pp. 51-52. Online.
4. [San2018g] P.M. Santos, L. Pinto, M. Rosa, J. Pintor, J. Mesquita, E. Soares, L. Almeida, A. Aguiar. *Connected Bicycles for Smart Mobility*. Poster presented at the national academic event *Ciência 2018*. Centro de Congressos de Lisboa, July 2018.
5. [San2018h] L. R. Pinto, P. M. Santos, J. Pintor, M. Rosa, J. Mesquita, L. Almeida, A. Aguiar. *Extensive characterization and modeling of bicycle-to-bicycle link quality*. Poster presented at the 25th RTCM Seminar. June 22, 2018. Faculdade de Ciências, Universidade do Porto, Porto, Portugal.
6. [San2018i] M. Rosa, P. M. Santos, L. Pinto, A. Aguiar. *Stolen Bicycles Detection using Bluetooth Low-Energy Technology*. Poster presented at the 25th RTCM Seminar. June 22, 2018. Faculdade de Ciências, Universidade do Porto, Porto, Portugal.
7. [San2018j] M. Rosa, P. M. Santos, L. Pinto, A. Aguiar. *Stolen Bicycles Detection using Bluetooth Low-Energy Technology*. Demonstration setup of a stolen bicycle detection system using Bluetooth Low Energy communication. Presented at the P2020 *Generation.Mobi* project Workshop. February 23, 2018. Faculdade de Engenharia, Universidade do Porto, Porto, Portugal.
Descriptive video: youtube.com/watch?v=zc8JpLaUkHA.
8. [San2017b] Pedro M. Santos, Tânia Calçada, Ana Aguiar, Susana Sargento, João Barros. *Communication Hub Placement Driven by I2V Service Estimation*. Poster presented at the national academic event *Ciência 2017*. July 2017. Centro de Congressos de Lisboa.
9. [San2016c] Poster: Yuniur Luis, Pedro M. Santos, Tania Calçada, Susana Sargento, Ana Aguiar, João Barros. *Collecting Data from the UrbanSense Platform Using Vehicular Networking*. Poster presented at the national academic event *Ciência 2016*. July 2016. Centro de Congressos de Lisboa.
10. [San2013c] P. M. Santos, T. E. Abrudan, A. Aguiar, J. Barros. *Impact of Position Errors on Device-to-Device Wireless Channel Estimation*. Talk at the 17th RTCM Seminar. July 19, 2013. Faculdade de Ciências, Universidade do Porto, Porto, Portugal.
11. [San2013d] L. Pinto, P. M. Santos, S. Crisóstomo, T. E. Abrudan, J. Barros. *A Cyber-Physical System for Dynamic Building Evacuation*. Talk at the 16th RTCM Seminar. February 15, 2013. Faculdade de Ciências da Saúde, Universidade da Beira Interior, Covilhã, Portugal.
12. [San2013e] L. Pinto, P.M. Santos, S. Crisóstomo, T. Abrudan, J. Barros. *On-the-Fly Deployment of Wireless Sensor Networks for Indoor Assisted Guidance*. Demonstration setup for a fast and practical deployment method of a dynamic building evacuation system. Published in [San2013b].
Descriptive video: youtube.com/watch?v=sC_kk_P_LOY

Presented at:

- Annual Conference of the FP7 *Future Cities* project. Mosteiro de São Bento da Vitória, Porto, January 2014.
- 3rd Annual Conference of the CMU-Portugal Program. Reitoria da Universidade Nova de Lisboa, Lisboa, October 2013.
- Celebrations of the 20th anniversary of the Instituto de Telecomunicações (IT) and 5th anniversary of the Porto branch. Departamento de Ciência dos Computadores, Faculdade de Ciências da Universidade do Porto, October 2012.

13. [San2010b] P.M. Santos, F. Vieira, J. Barros. *Building Evacuation System based on Wireless Sensor Networks*. Demonstration setup of a dynamic building evacuation system, that changes routes according to the evolution of the fire vectors.

Descriptive video: [youtube.com/watch?v=PJSqnq6ZfOE](https://www.youtube.com/watch?v=PJSqnq6ZfOE).

Presented at:

- Meeting of the External Review Committee of the CMU-Portugal projects. Centro Cultural e Científico de Macau, Lisboa, January 2012.
- 2nd Annual Conference of the CMU-Portugal Program. Fundação Calouste Gulbenkian, Lisboa, June 2010.
- Opening Ceremony of the School Year 2010/2011. PT, Fórum Picoas, Lisboa, January 2010. Demonstration presented to Science Minister Prof. Dr. José Mariano Gago.

1.2 Coordination and Participation in Scientific Projects

As per criterion C12 of the evaluation criteria - Participação em projetos científicos

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1.2.1 Coordination of Scientific Projects

Technical and administrative manager for partner CISTER/ISEP in the following R&D projects:

1. MIRAI - Machine Intelligence for smart and sustainable planning and operation of IoT and Edge

Details:

<i>Call/Program</i>	Eureka Cluster ITEA3, Call 6, Project n. 19034; POCI-01-0247-FEDER-069552
<i>Duration & Start</i>	36 months, from December 2020 to November 2023
<i>Site</i>	https://itea3.org/project/mirai.html
<i>Funding source</i>	ANI
<i>Funding granted</i>	EUR 132k (CISTER/ISEP)
<i>Scope</i>	International (BE, PT, TR, SE)
<i>Partners</i>	NOS Inovação (PT), FEUP (PT), CISTER/ISEP (PT), SIRRIS (BE), Macq (BE), 3E (BE), BTH (SE), Eliar (TR), Enforma (TR)
<i>Relevance</i>	1 of 9 projects to receive the ITEA seal in the ITEA3 Call6
<i>Evaluation</i>	Review meeting on November 2023 (photo); Positive balance
<i>Direct Results</i>	6 conference publications; 1 technical demonstrator showcased at review meeting.

Description: MIRAI developed building blocks based on AI techniques in order to enable the smart and sustainable planning and operation of IoT and edge computing applications. At Portugal, the use-case promoted by NOS Inovação addresses secure Internet provision to end-users.

Candidate's Role: Contributed to building national consortium (invited industrial partner); contributor to proposal; carried out most administrative and technical management work at the CISTER/ISEP partner; executed some technical work; represented partner in project meetings and workshops

2. FLOYD - 5G/SDN Intelligent Systems For LOW latency V2X communications in cross-Domain mobility applications

Details:

<i>Call/Program</i>	CMU PT Large-scale Collaborative Research Projects; POCI-01-0247-FEDER-045912
<i>Duration & Start</i>	30 months, from January 2021 to June 2023
<i>Site</i>	https://www.cmuportugal.org/large-scale-collaborative-research-projects/floyd/
<i>Funding source</i>	ANI, FCT
<i>Funding granted</i>	EUR 280k (CISTER/ISEP)
<i>Scope</i>	International (PT, US)
<i>Partners</i>	CapGemini Engineering, Altice Labs, Instituto de Telecomunicações, VORTEX Co-Lab, CISTER/ISEP, Carnegie Mellon University (US)
<i>Relevance</i>	1 of 12 Large-Scale Collaborative Research Projects (LSCRCP)
<i>Evaluation</i>	Funding entity considered objectives achieved
<i>Direct Results</i>	6 conference and 3 journal publications; 1 technical demonstrator; final public workshop (photo).

Description: FLOYD aims at building such a technological stack for offering high-performance network/computation services to autonomous vehicles.

Candidate's Role: Major contributor to proposal; carried out most administrative and technical management work; drove most publication effort; represented CISTER/ISEP partner in project meetings and workshops.

3. RETINA - REal-Time support Infrastructure and Energy management for Intelligent carbon-Neutral smArt cities

Details:

<i>Call/Program</i>	NORTE-45-2020-75 Structured R&D&I Projects – Horizon Europe; NORTE-01-0145-FEDER-000062
<i>Duration & Start</i>	24 months, starting on January 2021
<i>Funding source</i>	NORTE 2020 Regional Operational Program
<i>Funding granted</i>	EUR 243k (CISTER/ISEP)
<i>Scope</i>	National
<i>Partners</i>	CISTER, GECAD research centers (ISEP)
<i>Evaluation</i>	Funding entity considered objectives achieved.

Description: This line of funding for ongoing research will support the development of ICT solutions to enable neutrality on climate impact, particularly by enabling energy trading between the grid and new energy market players such as micro-producers and electrical vehicles.

Candidate's Role: Major contributor to proposal; carried out most administrative and technical management work.

1.2.2 Participation in Scientific Projects

Current projects:

1. Ph.D. Researcher in the project **Route 25** - (02/C05-i01.01/2022.PC645463824-00000063), funded by the Plano para a Recuperação e Resiliência (PRR).

Past projects:

2. Ph.D. Researcher in the project **InSecTT - Intelligent Secure Trustable Things** (reference: ECSEL/0002/2019, Grant 876038, call H2020-ECSEL-2019-1-IA), funded by the H2020 and FCT through the ECSEL Joint Undertaking.
3. Ph.D. Researcher in the project **AQUAMON** (Portuguese reference: PTDC/CCI-COM/30142/2017), funded by Fundação para a Ciência e Tecnologia, since April 2019.
4. Ph.D. Researcher in the project **S2MovingCity** (CMUP-ERI/TIC/0010/2014), funded by Programa CMU|Portugal program, from November 2018 to January 2019.
5. Ph.D. Researcher in the project **Generation.Mobi** (POCI-01-0247-FEDER-017369), funded by the *Portugal 2020*, *Compete 2020* and *EU ERDF* programs.
6. Ph.D. Student Researcher in the project **SmartCityMules** (PTDC/EEI-TEL/2008/2014), funded by Fundação para Ciência e Tecnologia, from October 2016 to December 2016.
7. Ph.D. Student Researcher in the project **VR2Market** (CMUP-ERI/FIA/0031/2013), funded by Programa CMU|Portugal program, from October 2015 to April 2016.
8. Ph.D. Student Researcher in the project **Vital Responder 2.0** (PTDC/EEI-ELC/2760/2012), funded by Fundação para Ciência e Tecnologia, from July 2015 to October 2015.
9. Ph.D. Student Researcher in the project **Future Cities** (FP7-REGPOT-2012-2013-1, 316296), funded by the 7th Framework Program (FP7), from May 2014 to May 2015.
10. Ph.D. Student Researcher in the project **Vital Responder** (reference: CMU-P/CPS/0046/2008), funded by the Carnegie Mellon University and Portugal Partnership Program, from September 2009 to September 2012.

1.3 Community Recognition

As per criterion C13 of the evaluation criteria - Intervenção na comunidade científica

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1.3.1 Organization of Scientific Events

1. Publication Chair, 32nd International Conference on Real-Time Networks and Systems (RTSN), 2024.
2. Publication Chair, 20th IEEE International Conference on Factory Communication Systems (WFCS), 2024.
3. Session chair, 1st Workshop on Distributed Edge AI (DE-AI), part of the 18th FedCSIS conference, 17-20 September 2023, Warsaw, Poland.
4. Session chair, Session 41 of IFIP Artificial Intelligence Applications and Innovations (AIAI) 2023, 14-17 June 2023, León, Spain & Hybrid.
5. General Co-Chair, 2nd EAI International Conference on Intelligent Edge Processing in the IoT Era (Edge-IoT 2021).
6. Member of Program Committee, 1st Distributed AI for REsource-Constrained Platforms (DARE) Workshop, part of the 17th International Conference on Artificial Intelligence Applications and Innovations (AIAI 2021).
7. Publicity Chair, 1st EAI International Conference on Intelligent Edge Processing in the IoT Era (Edge-IoT 2020).
8. Publication Chair, 2020 16th IEEE International Conference on Factory Communication Systems (WFCS).
9. Member of the Organizing Committee, 25th Seminar of the **Rede Temática de Comunicações Móveis (RTCM)**, an important academic national forum on mobile communications, that took place in the Faculdade de Ciências da University of Porto, on June 22, 2018. Pedro was responsible for:
 - Obtaining funding from industrial partners (Rohde&Schwarz) in a value up to 800 Euros;
 - Updating the event website and registration forms, and promoting the event through mailing lists and social networks;
 - Managing submissions and providing support to speakers/participants;
 - Producing identification/courtesy material (e.g., nametags, programs).
10. Member of the Organizing Committee, 1st Conference of Ph.D. Students on Electrical and Computer Engineering, on invitation by lecturers of the Faculty. Faculty of Engineering of the University of Porto, Portugal, in June 2012.

1.3.2 Member of the Technical Program Committee

- | | |
|---|------|
| 1. IEEE Vehicular Networking Conference | 2023 |
| 2. IEEE Vehicular Networking Conference | 2021 |
| 3. IEEE Vehicular Networking Conference | 2020 |

4. Int'l Conference on Ambient Systems, Networks and Technologies (ANT) 2020
5. IEEE Vehicular Networking Conference 2019
6. IEEE Vehicular Networking Conference 2018
7. EAI Future 5V conference 2018

1.3.3 Reviewer of Scientific Articles

1. IEEE Vehicular Networking Conference 2024
2. IEEE MELECON 2024
3. IEEE18th Wireless On-demand Network systems and Services Conference 2023
4. IEEE Vehicular Networking Conference 2023
5. IEEE/IFIP Int'l Conference on Dependable Systems and Networks, SSIV Workshop 2021
6. IEEE Int'l Conference on Intelligent Transportation Systems 2021
7. IEEE Int'l Conference on Communications, FINP Workshop 2021
8. IEEE/IFIP Int'l Conference on Dependable Systems and Networks, SSIV Workshop 2021
9. IEEE Transactions on Wireless Communications 2020
10. IEEE Access 2020
11. MPDI Electronics 2020
12. IEEE Vehicular Networking Conference 2020
13. IEEE Int'l Conference on Intelligent Transportation Systems 2020
14. IEEE MELECON 2020
15. IEEE Transactions on Wireless Communications 2019
16. IEEE Internet-of-Things Journal 2019
17. IEEE Access 2019
18. IEEE Vehicular Networking Conference 2019
19. ROBOT'2019 2019
20. ACM/IEEE Int'l Conference on Cyber-Physical Systems 2019
21. IEEE Vehicular Technology Conference 2018
22. IEEE Vehicular Networking Conference 2018
23. EAI Future5V conference 2018

24. Int'l Symposium on Wireless Communication Systems	2018
25. Wireless Days	2018
26. IEEE Int'l Conference on Intelligent Transportation Systems	2017
27. IEEE Vehicular Networking Conference	2017
28. IEEE Transactions on Wireless Communications	2016

1.3.4 Invited Participation in Technical-Scientific Events

1. Invited panel member, panel on cyber-physical systems, CPS Student Forum Portugal, as part of the [CPS Week](#), 13 April 2018, Porto, Portugal.

1.3.5 Management Positions

Starting from February 2021, Pedro has been appointed **Vice-President of the Scientific Council** of the CISTER Research Centre.

1.3.6 Jury Service

Jury in Ph.D. Thesis & Thesis Research Plan Defenses

External jury member in the following Ph.D. thesis defenses:

1. **Yousef Emami**, a student of the Ph.D. in the Doctoral Programme in Electrical and Computer Engineering of the *Universidade do Porto*, November 2023. Thesis entitled: "Deep Reinforcement Learning for Joint Cruise Control and Intelligent Data Acquisition in UAVs-Assisted Sensor Networks". External jury members: Professor Doutor Xiaoming Fu (Univ. Goettingen) and Nuno Lau (Univ. Aveiro); internal jury member: Professor Doutor (U.Porto); jury chair: Professor Doutor José Nuno Moura Marques Fidalgo (U.Porto). I acted as the second internal jury member.

External jury member in the following Thesis Research Plan (TRP) defenses:

1. **Gowhar Javanmardi**, student of the Ph.D. in the Doctoral Programme in Electrical and Computer Engineering of the *Universidade do Porto*, May 31, 2023. Thesis research plan: *Artificial Intelligence for V2X Multiple Input Multiple Output Systems*. Advisor: Doutor Ramiro Sámano Robles (CISTER/ISEP); external jury member: Dr. Ing. Arrate Alonso Gomez (Mondragon University); session chair: Professor Doutor José Fidalgo (U.Porto); I acted as the internal jury member.

Jury in M.Sc. Theses Defenses

External jury member in the following M.Sc. thesis defenses:

1. **Rui Paulo Rodrigues de Almeida**, student of the M.Sc. in Network and Informatic Systems Engineering of the Department of Computer Science of the *Faculdade de Ciências da Universidade do Porto*, December 12, 2023. Advisor: Professor Doutor Sérgio Crisóstomo; session chair: Professor Doutor Luís Lopes. Dissertation title: *Data Repair Using Network Coding*.

2. **Hugo Emanuel da Silva Pinho**, student of the M.Sc. in Applied Informatics of the *Universidade de Aveiro*, December 5, 2023. Advisor: Professor Doutor Joaquim Ferreira; session chair: Professor Doutor João Gonalo Dias. Dissertation title: *Sensor Fusion for Cooperative Perception in Intelligent Transport Systems*.
3. **Paulo Tiago Aires Araujo**, student of the M.Sc. in Network and Informatic Systems Engineering of the Department of Computer Science of the *Faculdade de Ciencias da Universidade do Porto*, July 27, 2023. Advisor: Professor Doutor Sergio Crisostomo; session chair: Professor Doutor Rui Prior. Dissertation title: *Automated tool to detect Network Security Vulnerabilities and Misconfigurations on a Major Cloud Provider*.
4. **Daniel Sousa Mendes**, student of the M.Sc. in Network and Informatic Systems Engineering of the Department of Computer Science of the *Faculdade de Ciencias da Universidade do Porto*, November 25, 2022. Advisor: Professor Doutor Rui Prior; co-advisor: Professor Doutor Sergio Crisostomo; session chair: Professor Doutor Lus Miguel Barros Lopes. Dissertation title: *Building Evacuation Assistance System*.
5. **Miguel Jose Gonalves da Corte**, a student of the M.Sc. in Network and Informatic Systems Engineering of the Department of Computer Science of the *Faculdade de Ciencias da Universidade do Porto*, December 16, 2021. Advisor: Professor Doutor Sergio Armindo Lopes Crisostomo; session chair: Professor Doutor Lus Miguel Barros Lopes. Dissertation title: *Sistema de Apoio  Evacuao de Edifcios em Caso de Sinistros*.
6. **Ricardo Joo dos Santos Pina Cabral**, a student of the M.Sc. in Engineering and Management of Information Systems of the Department of Computer Science of the Escola de Engenharia of the Universidade do Minho, that took place in July 24, 2020. Advisor: Professor Doutor Rui Joo Peixoto Jose; session chair: Professor Doutor Miguel Antnio Sousa Abrunhosa Brito. Dissertation title: *A Reference Design for Sensible Bicycles*.
7. **Filipe Emanuel de S Rocha**, a student of the M.Sc. in Computer Engineering and Telematics of the Department of Electrical, Telecommunications and Informatics of the Universidade de Aveiro, December 19, 2019. Advisor: Professor Doutor Miguel Lus; session chair: Professor Doutor Paulo Monteiro. Dissertation title: *Complementing vehicular connectivity coverage through cellular networks*.
8. **Joo Bernardo Castanheira Patrcio**, a student of the M.Sc. in Computer Engineering and Telematics of the Department of Electrical, Telecommunications and Informatics of the Universidade de Aveiro, December 19, 2019. Advisor: Professor Doutor Miguel Lus; session chair: Professor Doutor Paulo Monteiro. Dissertation title: *Network Mechanisms for Swarms of Drones in Aquatic Sensing Environments*.
9. **Brian Cavagna Rodrigues**, a student of the M.Sc. in Computer Science of the Department of Computer Science of the Faculdade de Ciencias da Universidade do Porto, December 15, 2018. Advisor: Professor Doutor Sergio Crisostomo; session chair: Professora Doutora Ins Dutra. Dissertation title: *GNSS and Barometric Sensor Fusion for Altimetry Applications*.

Jury in B.Sc. Final Project Defenses

External jury member in the following B.Sc. final project defenses:

1. **Eduardo da Silva Borges**, student of the *Licenciatura em Engenharia Eletrotécnica e de Computadores* of ISEP, September 27, 2022. Advisor: Professor Doutor Ênio Filho; session chair: Professor Doutor Luís Lima. Dissertation title: *A Simulated Safety and Security Drone Testbed*.
2. **Gustavo Castro Lopes**, student of the *Licenciatura em Engenharia Eletrotécnica e de Computadores* of ISEP, September 27, 2022. Advisor: Doutor Ênio Filho; session chair: Professor Doutor Luís Lima. Dissertation title: *Drone Handover: Missions Overview*.

1.4 Constitution of Scientific Teams

As per criterion C14 of the call notice - Constituição de equipas científicas

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1.4.1 Supervision of Ph.D Students

On-going Ph.D. theses:

1. **Saeid Sabamoniri**, Ph.D. programme on Electrical and Computer Engineering (PDEEC), Univ. Porto.
Current thesis title: *Cooperative ITS Management System*.
Received FCT Ph.D. scholarship in the 2023 call.
Co-supervisor: Prof. Luís Miguel Pinho de Almeida (FEUP/DEEC).
TRP defended on 14 September 2022.
The external jury member was Professor Doutor Miguel Luís (ISEL), the internal jury member was Professor Doutor Rui Campos (DEEC/FEUP), and the jury chair was Professor Doutor Jaime Cardoso (DEEC/FEUP).
2. **Luis Lam**, Ph.D. programme on Electrical and Computer Engineering (PDEEC), Univ. Porto.
Current thesis title: *V2X-based Vehicular Positioning in NLoS Scenarios using IRS for Safety and Security*.
Co-supervisor: Prof. Luís Miguel Pinho de Almeida (FEUP/DEEC).
TRP defended on 30 May 2023. The external jury member was Professor Doutor Michele Segata (University of Trento, Italy), the internal jury member was Professor Doutor Luís Pessoa (DEEC/FEUP), and the jury chair was Professor Doutor João Sousa (DEEC/FEUP).

Completed Ph.D. theses:

3. **Radha Reddy**, Ph.D. programme on Electrical and Computer Engineering (PDEEC), Univ. Porto.
Current thesis title: *Synchronous Intelligent Intersections for Sustainable Urban Mobility*.
Supervisor team: Pedro M. Santos (present candidate), Prof. Dr. Luís Miguel Pinho de Almeida (FEUP/DEEC) and Prof. Dr. Eduardo Tovar (ISEP/IPP).

Thesis defended on October 24, 2023. The external jury members are Professor Doutor Thidapat Chantem (Virginia Polytechnic and State University, USA) and Professor Doutor Samia Saad-Bouzeffrane (CNAM, Paris, France), the internal jury member is Professor Doutor Pedro Ferreira Souto (DEI/FEUP), and the jury chair is Professor Doutor José Nuno Fidalgo (DEEC/FEUP).

4. **Miguel Gáitan**, Ph.D. programme on Electrical and Computer Engineering (PDEEC), Univ. Porto. Thesis title: *Supporting Real-Time Communications in Overwater Multi-hop Networks*. Supervisor team: Pedro M. Santos (present candidate), Prof. Luís Miguel Pinho de Almeida (FEUP/DEEC) and Dr. Pedro d'Orey (CISTER/ISEP).

Thesis defended February 2023. The external jury members were Professor Doutor Svetlana Girs (Malardalen University, Sweden) and Thomas Watteyne (INRIA, France), the internal jury member was Professor Doutor Rui Campos (DEEC/FEUP), and the jury chair was Professor Doutor Jaime Cardoso (DEEC/FEUP).

Chapter 2

Pedagogical Activity

2.1 Coordination of Pedagogic Projects

As per criterion C21 of the evaluation criteria — Coordenação de projetos pedagógicos
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2.1.1 Involvement in Pedagogic Projects

1. **Designed the laboratory syllabus for course *Systems of Systems*** of the 1st year of the M.Sc. in Critical Computing Systems Engineering (MScCCSE) at ISEP. This course addressed the MQTT & CoAP protocols, the FIWARE data dissemination middleware and the Docker virtualization platform. Pedagogic resources are shown in following subsection.
2. **Prepared a semester-long course on the topic *Designing Vehicular Applications as Networked Multi-Agent Systems*** for Ph.D. student Saeid Sabamoniri (PDEEC/FEUP), in the scope of the *Special Topics* course (described in the following slides: [SpecialTopics_SaeidSabamoniri.pdf](#)).
3. **Introduced the topic of long-range communication technologies** (e.g., SigFox, LoRa, NB-IoT) in the syllabus of the course *Industrial Computation Architectures (ICA)*, of the 4th year of the Integrated M.Sc. program in Electrical and Computer Engineering of the Faculty of Engineering of the University of Porto (MIEEC/FEUP), and produced the associated pedagogical material ([ACI_wireless_long_range.pdf](#)).
4. **Produced and revised the experimental script for a practical assignment** on the temporal response of WLAN and Ethernet networks, also for the aforementioned course (*Industrial Computation Architectures*) and motivated by the reconfiguration of the practical assignments for remote execution ([Script_Assign3_Wlan_EN.pdf](#)).

2.1.2 Pedagogical Resources

1. **Laboratory exercises about the MQTT & CoAP protocols** (course *Systems of Systems* of MSc-CCSE / ISEP): [MQTTCoAP_Assignment_PedroSantos.pdf](#)
2. **Introduction slides and laboratory exercises about the FIWARE middleware** (course *Systems of Systems* of MScCCSE / ISEP).
 - [FIWARE_PedroSantos.pdf](#)
 - [FIWARE_Assignment_PedroSantos.pdf](#)
3. **Introduction slides and laboratory exercises about the Docker container platform** (course *Systems of Systems* of MScCCSE / ISEP).
 - [Docker_PedroSantos.pdf](#)
 - [Docker_Assignment_PedroSantos.pdf](#)
4. **Support slides for a semester-long course** on the topic *Designing Vehicular Applications as Networked Multi-Agent Systems*, as part of the Ph.D. course *Special Topics* (PDEEC/FEUP) taught to student Saeid Sabamoniri: [SpecialTopics_SaeidSabamoniri.pdf](#).
5. **Slides for a 2-hour lecture** on long-range communication technologies (e.g., SigFox, LoRa, NB-IoT): [ACI_wireless_long_range.pdf](#).
Used at:
 - Theoretical class of the course *Communication Systems for Critical Systems* (MScCCSE/ISEP);
 - Theoretical class of the course *Industrial Computation Architectures* (MIEEC/FEUP)
6. **Experimental guide for practical assignment** on the temporal response of WLAN and Ethernet networks, for the course *Industrial Computation Architectures*: [Script_Assign3_Wlan_EN.pdf](#).
7. **Slides on the Internet and TCP/IP stack operation** (e.g., DHCP, ARP), for a laboratory class of the course *Industrial Computation Architectures*, adapted from pre-existing slides: [ACI_trabalho3_20_21.pdf](#)
8. **Slides to introduce the practical implementation component** of the course *Industrial Informatics* (MIEEC/FEUP): [II_Aula_Implementacao.pdf](#).
9. Examination material for the course *Industrial Computation Architectures* – **around 60+ True-or-False questions per year**, created from scratch or adapted from examinations of previous years.

Pedagogical material presented informally to students:

7. **Slides for an introduction to Machine Learning**: [IntroML_PedroSantos.pdf](#).
8. **Slides for an introduction to network simulator OMNeT++**: [IntroOMNeT_PedroSantos.pdf](#).
9. **Slides for an introduction to Anomaly Detection through ML**: [AnomalyDetection_PedroSantos.pdf](#).
Presented on September 2021 to the MIRAI project consortium.
10. **Slides for an introduction to Privacy-Preserving ML**: [PrivacyPreservingML_PedroSantos.pdf](#).

2.2 Teaching Activity

As per criterion C22 of the evaluation criteria — Atividade letiva

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Teaching service:

1. **Invited assistant lecturer** (Professor Auxiliar Convocado) at the Faculdade de Engenharia da Universidade do Porto for the school years of 2023/24, 2022/23, 2020/21, 2019/20, 2018/19, 2017/18.
2. **Invited assistant lecturer** (Professor Auxiliar Convocado) at the Instituto Superior de Engenharia do Porto for the school years of 2023/24, 2022/23 and 2021/20.

2.2.1 Lectured Courses

1. Comunicações Industriais, M.EEC/FEUP – Lab. lectures, 4 hrs/week	2023/24
2. Informática Industrial, M.EEC/FEUP – Lab. lectures, 4 hrs/week	2023/24
3. Comunicações Industriais, M.EEC/FEUP – Lab. lectures, 4 hrs/week	2022/23
4. Laboratório de Computação, M.EEC/FEUP – Lab. lectures, 4 hrs/week	2022/23
5. Systems of Systems, MSCCE/ISEP – Lab. lectures, 3 lectures	2022/23
6. Systems of Systems, MSCCE/ISEP – Lab. lectures, 4 hrs/week	2021/22
7. Special Topics, PDEEC/FEUP – Contact hours with Ph.D. student	2020/21
8. Arquiteturas de Computação Industrial, M.EEC/FEUP – Lab. lectures, 4 hrs/week	2020/21
9. Informática Industrial, M.EEC/FEUP – Lab. lectures, 4 hrs/week	2020/21
10. Arquiteturas de Computação Industrial, M.EEC/FEUP – Lab. lectures, 4 hrs/week	2019/20
11. Informática Industrial, M.EEC/FEUP – Lab. lectures, 4 hrs/week	2019/20
12. Arquiteturas de Computação Industrial, M.EEC/FEUP – Lab. lectures, 4 hrs/week	2018/19
13. Sistemas Operativos, L.EEC/FEUP – Lab. lectures, 4 hrs/week	2018/19
14. Processamento Digital de Sinal, L.EEC/FEUP – Lab. lectures, 4 hrs/week	2017/18
15. Arquiteturas de Computação Industrial, M.EEC/FEUP – Lab. lectures, 4 hrs/week	2017/18

Evaluation by Students

Pedro was evaluated by the students in anonymous questionnaires for his performance in teaching. The students were asked to grade Pedro in the scope of *Support to Autonomy, Consistency and Help, Structure and Relationship*, in a scale of 1 to 7. Table 2.1 presents the results.

Table 2.1: Evaluation of the applicant by the students (averaged).

Year	Course	# Replies	Support to autonomy	Consistency and help	Structure	Relationship
2017/18	ACI	12	5.50	6.04	5.08	6.25
	DSP	10	5.7	5.85	5.17	5.9
2018/19	ACI	12	4.96	5.50	5.06	5.50
	SO	9	5.89	5.61	5.74	5.89
2019/20	ACI	12	4.67	5.58	4.75	5.58
	II	10	6.0	6.2	5.43	6.7
2020/21	ICA	10	2.85	3.70	2.83	3.20
	II	5	5.50	6.4	4.8	6.4
2022/23	CI	4	5.50	6.38	5.50	6.00
	LCOMP	8	3.31	4.00	3.08	4.00
2023/24	CI	9	4.50	5.33	4.67	4.44

2.3 Supervision of B.Sc. Final Projects and M.Sc. Theses

As per criterion C23 of the call notice — Orientação de estudantes em trabalhos finais de licenciatura e dissertações de mestrado

(Back to [mapping table](#))

2.3.1 Supervision of M.Sc. Theses

Completed M.Sc. theses:

1. Advisor, **Pedro Vicente** - M.Sc. on Electrical and Computer Engineering, Institute of Engineering of the Polytechnic Institute of Porto. Thesis entitled *Deployment of ML mechanisms for Cybersecurity in Resource-Constrained Embedded Systems*, successfully defended on September 2023 (grade: 17/20).
2. Advisor, **João Filipe Mateus Pereira** - M.Sc. on Electrical and Computer Engineering, Institute of Engineering of the Polytechnic Institute of Porto. Thesis entitled *5G-Enabled Autonomous Platooning on Robotic Vehicle Testbed*, successfully defended on July 2023 (grade: 18/20).
3. Advisor, **Rui Pedro Oliveira Reis** - M.Sc. on Electrical and Computer Engineering, Faculty of Engineering of the University of Porto. Thesis co-advised by Professor Luís Almeida, entitled *A Tool for Large-Scale Workflow Control in Edge-based Industry 4.0 Applications*, successfully defended on February 2023 (grade: 16/20).
4. Advisor, **José Miguel Pereira Pinheiro** - M.Sc. on Electrical and Computer Engineering offered by the Faculty of Engineering of the University of Porto. Thesis co-advised by Professor Luís Almeida, entitled *Implementing an Open-source Vehicular Networking Testbed*, successfully defended on July 2022 (grade: 17/20).

5. Advisor, **Nuno de Assis Miranda Schumacher** - M.Sc. on Electrical and Computer Engineering, Faculty of Engineering of the University of Porto. Thesis co-advised with Professor Ricardo Morla (DEEC/FEUP), entitled *Cloud/Edge Machine Learning for Privacy-Preserving Network Trace Profiling*, successfully defended on July 2022 (grade: 18/20).
6. Advisor, **Ana Rita de Almeida Martinho** - M.Sc. on Electrical and Computer Engineering, the Faculty of Engineering of the University of Porto. Thesis co-advised by Professor Luís Almeida, entitled *Dynamic Quality-of-Service Management Under Software-Defined Networking Architectures*, successfully defended on July 2021 (grade: 19/20).
7. Advisor, **Rui Miguel Santos Carvalho** - M.Sc. on Electrical and Computer Engineering, Faculty of Engineering of the University of Porto. Thesis carried out in an industrial setting (Altran Portugal) and co-advised by Engineer Ricardo Faria, entitled *ROS2-based Architecture for MAV Data Sensing*, successfully defended on July 2021 (grade: 19/20).
8. Advisor, **André Cipriano Sousa** - M.Sc. on Electrical and Computer Engineering, Faculty of Engineering of the University of Porto, carrying out the thesis entitled *Simulation-based Evaluation of Edge Computing-Assisted Applications*, successfully defended on July 2020.
9. Advisor, **Diogo Leite Martins** - M.Sc. on Electrical and Computer Engineering, Faculty of Engineering of the University of Porto. Thesis carried out in an industrial setting (Altran Portugal) and co-advised by Engineer Bruno Parreira, entitled *Rede doméstica gerida por voz*, successfully defended on July 2020.
10. Co-advisor, **Pedro de Castro Albergaria** - M.Sc. on Electrical and Computer Engineering, Faculty of Engineering of the University of Porto. Thesis co-advised by Professor Luís Almeida, entitled *Remote biometrical monitoring system via IoT*, successfully defended on July 2020.
11. Advisor, student **José Bastos Pintor** - M.Sc. on Electrical and Computer Engineering, Faculty of Engineering of the University of Porto. Thesis co-advised by Doctor Pedro Miranda d'Orey, entitled *Performance Evaluation of Bicycle-to-X Communication Networks*, successfully defended on February 2019.
12. Advisor, student **José Pedro Fonseca** - M.Sc. on Electrical and Computer Engineering, Faculty of Engineering of the University of Porto. Thesis carried out in an industrial setting (FollowInspiration) and co-advised by Eng. Joana Santos, entitled *Estimação Stereo usando técnicas de deep learning*, successfully defended on July 2019.
13. Co-advisor, **Luís Miguel Ramos Bárbara Cunha Pinto** - M.Sc. on Electrical and Computer Engineering, Faculty of Engineering of the University of Porto. Thesis advised by Professor Doctor João Barros and Doctor Fausto Vieira, entitled *A Cyber-Physical System for Dynamic Building Evacuation*, successfully defended on July 2011.

2.3.2 Supervision of B.Sc. Projects

Completed supervised B.Sc. theses:

1. Advisor, **José Pedro Poças Santos** - B.Sc. in Electrical and Computer Engineering, Institute of Engineering of the Polytechnic Institute of Porto. Final project entitled *Improvement of an Autonomous Vehicular Testbed: Vehicle Following via Image Processing*, successfully defended on September 2022.
2. Advisor, **Duarte Moreira** - B.Sc. in Electrical and Computer Engineering of the Institute of Engineering of the Polytechnic Institute of Porto. Final project co-advised by Professor Doctor David Pereira, entitled *LIDAR Measurement and Following System*, successfully defended on September 2022.
3. Co-advisor, **João Filipe Mateus Pereira** - B.Sc. in Electrical and Computer Engineering, Institute of Engineering of the Polytechnic Institute of Porto. Final project entitled *Evaluating 802.11p Communications Performance for a Safety-Critical Vehicular Application*, successfully defended on September 2021.
4. Co-advisor, **Diogo José Guedes Marta** - B.Sc. in Electrical and Computer Engineering of the Institute of Engineering of the Polytechnic Institute of Porto. Final project co-advised by Professor Doctor Ricardo Severino and Ênio Filho, entitled *Hybrid Evaluation Framework for Vehicle Edge Computing*, successfully defended on September 2020.

2.3.3 Collaborations with M.Sc./B.Sc. Students

Students carrying their M.Sc. thesis or B.Sc. final project:

1. **Tomás Sousa**, student of the Bachelor in Electrical and Computer Engineering of the Institute of Engineering of the Polytechnic Institute of Porto. Final project co-advised by Professor Doctor Filipe Pacheco and Ênio Filho, entitled *Development of a Line Follower Algorithm for an Indoor Cooperative Platooning Testbed*, successfully defended at September 2021.
2. **Carlos Gonçalves**, student of the Bachelor in Electrical and Computer Engineering of the Institute of Engineering of the Polytechnic Institute of Porto. Final project co-advised by Professor Doctor Filipe Pacheco and Ênio Filho, entitled *Development of an Indoor Cooperative Platooning Testbed: Localization and Platooning Algorithm*, successfully defended at September 2021.
3. **Fábio Cunha**, student of the Master in Electrical and Computer Engineering of the Faculty of Engineering of the University of Porto, advised by Professor Doctor Ana Aguiar and Doctor André Cardote (VENIAM), with a thesis entitled *Buses as Urban Sensing Data Couriers*. Pedro also supported the work of the following student, that did not defend his thesis for reasons unrelated to Pedro.
4. **Leonid Andreevitch Kholkine**, student of the Master in Electrical and Computer Engineering of the Faculty of Engineering of the University of Porto, advised by Professor Doctor Ana Aguiar and Doctor André Cardote (VENIAM), with a thesis entitled *Are you on the bus? Detecting Relative Position of Devices versus Mobile Hotspots*, successfully defended at July 2016.
5. **Diogo Manuel Castro Guimarães**, student of the Master in Electrical and Computer Engineering of the Faculty of Engineering of the University of Porto. Thesis advised by Doctor Tânia Caçada and

Professor Doctor Susana Sargento (Universidade de Aveiro), entitled *Comunicações Oportunisticas para Aquisição de Dados de Sensores Ambientais Usando uma Rede Veicular*, successfully defended at July 2015.

6. **André da Silva e Sá**, student of the Master in Electrical and Computer Engineering of the Faculty of Engineering of the University of Porto. Thesis advised by Doctor Tânia Calçada and Professor Doctor Susana Sargento (Universidade de Aveiro), entitled *Fixed Sensors Integration for Future Cities Using M2M*, successfully defended at October 2014.

Outside the scope of a M.Sc. thesis or B.Sc. final project:

7. **Alex Nguyen**, student working towards the Diplôme d'ingénieur in Energies et environnement at ESIEE Paris, visiting under the Erasmus+ program, from May 2018 to July 2018. From this collaboration resulted publication [**San2018f**].
8. **Miguel Rosa**, student of the M.Sc. in Electrical and Computer Engineering of the Faculty of Engineering of the University of Porto, since December 2017.
9. **Luís Miguel Sousa**, student of the B.Sc. in Electrical and Computer Engineering of the Faculty of Engineering of the University of Porto, since October 2017.
10. **Filipa Barros**, student of the B.Sc. in Electrical and Computer Engineering of the Faculty of Engineering of the University of Porto, since October 2017.
11. **Hugo Cruz**, student of the B.Sc. in Electrical and Computer Engineering of the Faculty of Engineering of the University of Porto, between 2012 and 2013.
12. **João Granja**, student of the B.Sc. in Electrical and Computer Engineering of the Faculty of Engineering of the University of Porto, between 2012 and 2013.

Chapter 3

Other Relevant Activities

3.1 Community Outreach

As per criterion C31 of the call notice - Divulgação de ciência e tecnologia
(Back to [mapping table](#))

3.1.1 Dissemination Activities to the General Public

1. Pedro presented and promoted the work carried out in the *Generation.Mobi* project (see Section 1.2) within the context of the *Volta ao Conhecimento* initiative, organized by the Ministry of Science, Technology and Higher Education, and that aims to disseminate the scientific research carried out in Portugal in partnership with the *Volta a Portugal* event, Portugal's most important cycling competition. Pedro did:
 - (a) An interview about the project in the RTP show '*Há Volta!*', a general-audience show themed about the *Volta a Portugal*, on occasion of the 12th and last stage of the 2018 edition, at Fafe, Portugal, on August 12, 2018.
Video: [youtube.com/watch?v=u8yp05SIB8w](https://www.youtube.com/watch?v=u8yp05SIB8w)
 - (b) Dissemination in a dedicated stand in the public area of the event, at the same date and stage.
2. Promoted the work carried out at the Instituto de Telecomunicações, Porto branch, at:
 - (a) Pedro M. Santos, Leonid Kholkine, Tania Calçada, Diogo Guimarães, Tiago Condeixa, Daniel Moura, Susana Sargento, Ana Aguiar, João Barros. *Poster: Network Solutions for Smart Cities*. Presented at *TechDays 2016*, a dissemination event of the scientific and industrial activities of the municipality of Aveiro, Portugal. Centro de Exposições, Aveiro, Portugal, September 2016.
 - (b) *Mostra UP 2015*, a dissemination event of the course offering and scientific work of the organic entities of the University of Porto, Portugal. Edifício da Alfândega, Porto, Portugal, 2015.
 - (c) *Mostra UP 2014*, a dissemination event of the course offering and scientific work of the organic entities of the University of Porto, Portugal. Pavilhão Rosa Mota, Porto, Portugal, 2014.

3.1.2 Technology Dissemination Publications

1. A. Rocha, F. Fontes, L. Cortesão, P.M. Santos, R.S. Robles, R. Severino. *5G intelligent communications for V2X ecosystems*. Altice Labs magazine *InnovAction*, no. 4, 2019.

3.1.3 Audiovisual Dissemination Material

Pedro has produced the following audiovisual material to support the dissemination of scientific and academic results in mass media platforms.

1. J. Pereira, J.M. Pinheiro, L. Lam, Pedro M. Santos, . Video: *An ETSI ITS-enabled Robotic Scale Testbed for Network-Aided Safety-Critical Scenarios*.
URL: youtube.com/watch?v=psUvqg3xltA.
Video to disseminate results of the CMU|PT project *FLOYD*.
2. Pedro M. Santos, L. Pinto, M. Rosa. Video: *Demo: Stolen Bicycle Detection using Bluetooth Ad Hoc Communication*.
URL: youtube.com/watch?v=zc8JpLaUkHA.
Video to disseminate results of the P2020 project *Generation.Mobi*.
3. Pedro M. Santos, Diogo Guimarães. Video: *Platform for Collecting Data From Urban Sensor Using Vehicular Networking*.
URL: youtube.com/watch?v=Hqjx28hpuT8.
Support video to demonstration submission to the ACM MobiCom 2015 conference.
4. Pedro M. Santos. Video: *Fire sensors and escape routes*.
URL: youtube.com/watch?v=PJSqnq6ZfOE.
Dissemination video for the CMU|Portugal project *Vital Responder*.

3.1.4 Pedagogical Training

1. Attended a course of complementary skills on **Presentation and Assertive Communication Techniques**, offered by the Faculty of Engineering of the University of Porto, Portugal, and worth 1,5 ECTS, in November 2013.
2. Attended a course of complementary skills on **Pedagogical Training**, offered by the Faculty of Engineering of the University of Porto, Portugal, totaling 1,5 ECTS, in November 2016.

Appendix A

Current Professional Status, History, & Specialty Area

Instituto Superior de Engenharia do Porto

**CONTRATO DE TRABALHO EM FUNÇÕES PÚBLICAS
A TERMO RESOLUTIVO CERTO**

Entre

O **Instituto Superior de Engenharia do Porto (ISEP)**, com sede na Rua Dr. António Bernardino de Almeida n.º 431, no Porto, entidade coletiva de direito público com o número de pessoa coletiva 501540709, neste contrato representado pela sua Presidente Maria João Monteiro Ferreira Viamonte, adiante designado por Primeiro Contraente

E

Pedro Miguel Salgueiro dos Santos, Cartão de cidadão n.º 13004052 5 ZY9, válido até 29-05-2022, com o número de contribuinte 233026061, residente na Rua Vista Alegre n.º 64 3º Tras - 4445-669 Ermesinde, doravante designado por segundo Contraente ou trabalhador.

Foi acordado e reduzido a escrito o presente contrato de trabalho em funções públicas a termo resolutivo certo, autorizado por despacho da Presidente do ISEP, ISEP/P/53//2018 de 31 de julho de 2018.

**Cláusula Primeira
(Enquadramento Legal)**

O presente contrato de trabalho em funções públicas, é celebrado ao abrigo do disposto na alínea e) do ponto 1 do artigo 12º dos Estatutos do Instituto Superior de Engenharia do Porto, homologados pelo Despacho n.º 2863/2018, publicado na II Série do Diário da República n.º 56 de 20 de março de 2018, no Decreto-Lei n.º 57/2016, de 29 de agosto, na redação dada pela Lei n.º 57/2017, de 19 de julho, que aprova um regime de contratação de doutorados, destinado a estimular o emprego científico e tecnológico em todas as áreas do conhecimento (designado, abreviadamente, RCTD), no Decreto Regulamentar n.º 11-A/2017, de 29 de dezembro e na Lei Geral do Trabalho em Funções Públicas, aprovada em anexo à Lei n.º 35/2014, de 20 de junho, na sua redação atualmente em vigor (designada, abreviadamente, LTFP).

**Cláusula Segunda
(Objeto)**

Este contrato tem como objeto a ocupação de um posto de trabalho de Doutoramento, equiparado a investigador auxiliar, para o exercício de funções, de investigação científica, em regime de dedicação exclusiva, pelo segundo contraente, na área de sistemas computacionais de tempo-real e sistemas embebidos, visando contribuir para o progresso da investigação desenvolvida, nesta área científica e nas suas diferentes vertentes, tendo em vista o reforço do investimento em ciência e tecnologia, nos termos do disposto no RCTD.



MORADA

Rua Dr. António Bernardino de Almeida, 431
4249-015 PORTO
Portugal

CONTACTOS

tel. +351 228 340 500
fax. +351 228 321 159
www.isep.ipp.pt
mail@isep.ipp.pt

N.º CONTRIBUINTE

501 540 709

P.PORTO

**Cláusula Terceira
(Local da prestação do trabalho)**

O segundo contraente exercerá a sua atividade no CISTER – Centro de Investigação em Sistemas Computacionais Embebidos e Tempo-Real do ISEP, nas instalações do Instituto Superior de Engenharia do Porto do Instituto Politécnico do Porto, sito na Rua Dr. António Bernardino de Almeida n.º 431, 4200-072 Porto, cuja Presidência se encontra sediada nas mencionadas instalações.

**Cláusula Quarta
(Duração do contrato)**

1 – O presente contrato é celebrado pelo período de três anos, com início a 07/02//2019 e termo a 06/02/2022, sendo automaticamente renovável, por períodos de um ano, até à duração máxima de seis anos, ao abrigo do disposto na alínea f) do n.º 1 do artigo 57.º da LTFP, conjugado com o disposto no n.º 1, 2 e 4 do artigo 23.º do RCTD.

**Cláusula Quinta
(Renovação do contrato)**

- 1 - A renovação automática, prevista na cláusula Quarta, ocorrerá sempre que se mantenham os pressupostos legais que determinaram a celebração do contrato a termo resolutivo certo, presumindo-se a vontade do segundo contraente em renovar o contrato.
- 2 – Não se aplicando, ao presente contrato, o disposto no n.º 1 do artigo 61.º da LTFP, fica dispensada a obrigação de comunicação expressa de intenção de renovação, prevista no artigo 293.º da LTFP, conforme decorre do disposto no n.º 2 do artigo 6.º da RCTD.

**Cláusula Sexta
(Cessação do contrato)**

- 1 – As condições de cessação do presente contrato encontram-se previstas na Lei Geral do Trabalho em Funções Públicas.
- 2-Conforme previsto no n.º 2 do artigo 6.º do RCTD, sem prejuízo de outras causas de cessação ou extinção legalmente previstas, o órgão científico do ISEP, poderá propor a cessação do contrato com fundamento em avaliação desfavorável do trabalho desenvolvido pelo doutorado, realizada nos termos da regulamentação aplicável que estiver em vigor no Instituto Superior de Engenharia do Porto, a qual deve ser comunicada ao interessado até 90 dias antes do termo do contrato.

Pedro Miguel Salgueiro dos Santos



Nome: Pedro Miguel Salgueiro dos Santos [Web](#)
Sigla: PMSS
Código: 510443
Estado: Ativo
[i>](#) 9F14-3CD7-F5DE

Contactos

Email Institucional: pmsantos@fe.up.pt
E-mail alternativo: pedromsds@gmail.com [✓](#)
Voip: 3290 [☎](#)
Telemóvel: (+ 351):933218115 [!](#)
Salas: I302

Funções

Categoria: Professor Auxiliar Convitado

Grupo profissional: Docente

Vínculo: (28,6%)

Departamento: Departamento de Engenharia Eletrotécnica e de Computadores

Apresentação Pessoal

Pedro holds a full-time Researcher Fellow position at the CISTER research center, part of the High School of Engineering of Porto (ISEP/ISEP), and an appointment as invited lecturer at the Faculty of Engineering of the University of Porto (FEUP), Portugal. Pedro received his Ph.D. degree in 2017 from U.Porto; his host institution was Instituto de Telecomunicações (IT). Pedro recently acted as P.I. in the Eureka MIRAI project addressing cybersecurity, and in the CMU|Portugal FLOYD project, that explores edge computing and 5G communications to support vehicular clients. Besides this, Pedro has extensive participation in national and international projects in the topics of wireless communications and smart cities. Pedro has (co-)authored over 40 publications in international research venues with edited proceedings or journals, and has been part of multiple organizing committees and TPCs of well-established conferences. His supervision service includes 2 completed Ph.D.s (with 2 on-going) and 13 M.Sc.s. His interests are wireless systems, 5G/6G Core and RAN, wireless positioning, vehicular communications and their interplay with autonomous driving.

Histórico Profissional

Colaborador: Pedro Miguel Salgueiro dos Santos

Número mecanográfico: 510443

Nomeação/Contrato (04)

	Efeitos	Fim
Unidade Orgânica Faculdade de Engenharia		
Data Início	2022-09-01	
Departamento Departamento de Engenharia Electrotécnica e de Computadores	2022-09-01	
Categoria Professor Auxiliar Convitado	2022-09-01	
Área Funcional: Sem Área Carreira: Sem Carreira Grupo: Docente		
Vínculo CTFP termo resolutivo certo	2024-03-01	2024-08-31
Vínculo CTFP termo resolutivo certo	2023-09-01	2024-02-29
Vínculo CTFP termo resolutivo certo	2023-03-01	2023-08-31
Vínculo CTFP termo resolutivo certo	2022-09-01	2023-02-28
Escalão/Índice 1/195	2022-09-01	
Extinção Caducidade	2024-08-31	

Nomeação/Contrato (03)

	Efeitos	Fim
Unidade Orgânica Faculdade de Engenharia		
Data Início	2019-09-02	
Departamento Departamento de Engenharia Electrotécnica e de Computadores	2019-09-02	
Categoria Professor Auxiliar Convitado	2019-09-02	
Área Funcional: Sem Área Carreira: Sem Carreira Grupo: Docente		
Vínculo CTFP termo resolutivo certo	2020-09-02	2021-09-01
Vínculo CTFP termo resolutivo certo	2019-09-02	2020-09-01
Escalão/Índice 1/195	2019-09-02	
Extinção Caducidade	2021-09-01	

Nomeação/Contrato (02)

	Efeitos	Fim
Unidade Orgânica Faculdade de Engenharia		
Data Início	2019-03-01	
Departamento Departamento de Engenharia Informática	2019-03-01	
Categoria Professor Auxiliar Convitado	2019-03-01	
Área Funcional: Sem Área Carreira: Sem Carreira Grupo: Docente		
Vínculo CTFP termo resolutivo certo	2019-03-01	2019-08-31
Escalão/Índice 1/195	2019-03-01	
Extinção Caducidade	2019-08-31	

Nomeação/Contrato (01)

	Efeitos	Fim
Unidade Orgânica Faculdade de Engenharia		
Data Início	2017-09-01	
Departamento Departamento de Engenharia Electrotécnica e de Computadores	2017-09-01	
Categoria Professor Auxiliar Convitado	2017-09-01	
Área Funcional: Sem Área Carreira: Sem Carreira Grupo: Docente		
Vínculo CTFP termo resolutivo certo	2018-09-01	2019-02-28
Vínculo CTFP termo resolutivo certo	2018-03-01	2018-08-31

VínculoCTFP termo resolutivo certo
Escalão/Índice1/195
ExtinçãoCaducidade

2017-09-01 2018-02-28
2017-09-01
2019-02-28

Bolsa (03)

	Efeitos	Fim
Unidade Orgânica Faculdade de Engenharia		
Data Início	2017-07-03	
Departamento Departamento de Engenharia Electrotécnica e de Computadores	2017-07-03	
Âmbito Projecto Investigação e Desenvolvimento		
Vínculo Bolsa de pós-doutoramento		
Extinção Caducidade	2018-10-31	

Bolsa (02)

	Efeitos	Fim
Unidade Orgânica Faculdade de Engenharia		
Data Início	2017-01-02	
Departamento Departamento de Engenharia Electrotécnica e de Computadores	2017-01-02	
Âmbito Projecto Investigação e Desenvolvimento		
Vínculo Bolsa de investigação		
Extinção Terminou	2017-07-01	

Outras Colaborações (01)

	Efeitos	Fim
Unidade Orgânica Faculdade de Engenharia		
Data Início	2015-08-12	
Departamento Departamento de Engenharia Electrotécnica e de Computadores	2015-08-12	
Modalidade Investigador externo		
Objecto Bolseiro de investigação do Instituto de Telecomunicações até 30/09/2015.		
Extinção Terminou	2015-09-30	

Bolsa (01)

	Efeitos	Fim
Unidade Orgânica Faculdade de Engenharia		
Data Início	2014-05-14	
Departamento Departamento de Engenharia Electrotécnica e de Computadores	2014-05-14	
Âmbito Projecto Investigação e Desenvolvimento		
Vínculo Bolsa de investigação		
Extinção Terminou	2015-06-30	

Certificates



CERTIFICATE

Doctor's Degree (*Doutor Degree*)

Mónica Isabel Saraiva Pissarra da Silva, Responsible for the Academic Services of the University of Porto:

Hereby certifies that

Pedro Miguel Salgueiro dos Santos

holder of civil ID number 13004052, of portuguese nationality, completed at the Faculty of Engineering of this University, on the 22nd of May 2017, the *Doutor Degree* (Doctor's Degree) in Electrical and Computer Engineering, having been Approved.

This degree was registered under number 11005138D200401114.

This document is authenticated with the embossed seal of this University.

University of Porto, 01st of June of 2017.

Responsible of the Administrative Office

Emit. jmota

Conf. *Ca Bastos*

N.º Cert. 379543



CERTIFICATE

Mestre Degree (Master's Degree)

Matilde Fernanda da Rocha Moreira, Director of Academic Services of the *Faculdade de Engenharia* (Faculty of Engineering) of the *Universidade do Porto* (University of Porto):

Hereby certifies, that

Pedro Miguel Salgueiro dos Santos

holder of civil ID number 13004052, of Portuguese nationality, completed at the *Faculdade de Engenharia* (Faculty of Engineering) of this University, on the 20th of July 2009, the integrated cycle of studies leading to the *Mestre* degree (Master's degree) in *Engenharia Electrotécnica e de Computadores - Telecomunicações* (Electrical and Computers Engineering - Telecommunications), with the final grade of seventeen (out of 20), corresponding to grade A on the European grading scale.

This degree was registered under number 11009367M040503163.

This document is authenticated with the embossed seal of this Faculty.

Faculdade de Engenharia (Faculty of Engineering) of the *Universidade do Porto* (University of Porto), 14th of May 2018.

P¹

Director of Academic Services

Paula Blente

Emit. cmorais

Conf. 

N.º Cert. 409835