Cristiano Premebida

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Address: Dept of Electrical and Computer Engineering (DEEC), Univ. of Coimbra, Polo 2, 3030-290, Coimbra, Portugal.

Areas of interest

Robotic perception; Machine learning; Uncertainty calibration; Probabilistic inference; Agricultural robotics; Autonomous systems; Autonomous driving.

Professional experience

Institution: University of Coimbra.
Period: Dec/2019 - present.
Position/responsibilities: Lecturer on electrical and computer engineering.

Institution: Loughborough University, UK.
Period: Sept/2018 – Dec/2019.
Position/responsibilities: Lecturer (assistant professor) in Intelligent Mobility / Autonomous Vehicles.

Institution: University of Coimbra & Institute of Systems and Robotics (ISR-UC).
Period: 2013 – 2018.
Position/responsibilities: Invited lecturer; Postdoc fellow; Research scientist.

Company: Criavision Lda, Portugal.
Period: 2006 – 2012.
Position/responsibilities: Co-founder; project coordinator on automation and machine vision; R&D consultant.

Company: Pollux Automation SA (Brazil and Mexico).
Period: 2000 – 2004.
Position/responsibilities: Project leader on machine vision (MV) and industry automation.

Academic degrees

Ph.D. in Electrical and Computing Engineering, 2012.
Institution: University of Coimbra, Portugal.
Thesis title: Pedestrian detection using laser and vision.

M.Sc. in Electrical and Computing Engineering, 2007.
Institution: University of Coimbra, Portugal.
Thesis title: "*Object detection and classification in outdoor scenes for autonomous vehicles*".

B.Sc. in Electrical Engineering, 2001.
Institution: State University of Santa Catarina (UDESC), Brazil.
Thesis title: "*Machine vision for industrial inspection systems*".

Published works

Google scholar: https://scholar.google.com/citations?user=RuHUvNMAAAAJ&hl=en

Main R&D Projects

Project: "Artificial Intelligence and sensor-fusion systems in sustainable robotics for precision agriculture" (AIGreenBots).
Funded by the EU Horizon, MSCA Doctoral Network programme. Budget: 2.3 M€ (5 countries: PT, ES, FR, NL, UK).
Period: Oct/2024 – Sept/2028.   Position: Coordinator.   Webpage: https://aigreenbots.eu/

Project: "Explainable probabilistic models for robot applications (XPro);
Funded by the FCT-Portugal, and the Deutscher Akademischer Austauschdienst (DAAD).
Period: Jul/2024 – Jun/2026.   Position: PI.   Partners. ISR-UC, Universität Greifswald.

Project: "Intelligent Robotic System for Digital Agriculture" (GreenBotics); Funded by the Portuguese National Funding Agency for Science, Research and Technology (FCT). Ref: PTDC/EEI-ROB/2459/2021
Period: Jan/2022 – Jan/2025.   Position: PI.   https://sites.google.com/view/agribots/project-greenbotics

Project: "Intelligent Automation in Precise Agriculture" (AI⁺Green); Funded by the Portuguese National Funding Agency for Science, Research and Technology (FCT). Ref: MIT-EXPL/TDI/0029/2019
Period: Oct/2020 – Apr/2022.   Position: PI.   Webpage: https://sites.google.com/view/agribots

Project: "ViVID – Virtual Vehicle Integration and Development"; Funded by the Advanced Propulsion Centre through the APC 11 competition. Webpage: https://www.ideuk.org/project-vivid

Period: Dec/2018 – Dec/2019.   Position: Co-PI from Loughborough University.

Project: "Regulation Study for Interoperability in the Adoption of Autonomous Driving in European Urban Nodes" (AutoCITS); CEF-INEA, European Commission. Webpage: https://www.autocits.eu/

Period: Nov/2016 – Mar/2019.   Position: WP Leader, and PI from Univ. Coimbra.

Project: "Scientific and technical innovations for safer Powered Two Wheelers"; COST Action. Webpage: http://www.safe2wheelers.eu/ Period: Mar/2015 – Mar/2019. Position: MC member representing Portugal.

Other projects: https://isr.uc.pt/index.php/people?task=showpeople.show%28%29&idPerson=97

Select professional service

- **Workshop, Summer-school, Event's organizer**

2020-**present**, summer school on Robotics & Machine Learning (RML)
Website: https://sites.google.com/view/roboticsmachinelearning
2023, Int. Workshop on Robotic Perception and Situation Awareness in Real-World Applications (RoSA), in conjunction with the conference ECMR'23. Webpage: https://sites.google.com/view/rosa-ecmr23
2023, Special Session "Intelligent Robotic Systems for Digital Agriculture" (IODA), at the conference ROBOT'23. Webpage: https://robot2023.isr.uc.pt/wp-content/uploads/2023/07/SS13.pdf
2019, "Connected, Cooperative, and Automated Driving" (CAD), IEEE IV
Website: https://sites.google.com/view/cad-iv19
2018, "Connected, Automated and Autonomous Vehicles" (CA2V), IEEE ICVES
Website: https://sites.google.com/view/ca2v-icves2018/home
2018, "Connected, Automated and Autonomous Vehicles" (CA2V), IEEE VTC2018-Spring
Website: https://sites.google.com/view/ca2v-vtc2018/home
2017, Workshop AUTO-CITS.
2017, "Artificial Perception, Machine Learning and Datasets for Human- Robot Interaction", IEEE RO-MAN
Webpage: https://sites.google.com/site/roman17armada/
2017, "Applied ML: Concepts and Case Studies", III-UC, Coimbra.
Webpage: https://www.cisuc.uc.pt/home/news/amlw2017
2016, "Advanced perception, Machine learning and Data sets", IEEE ITSC
Webpage: http://www.lrm.icmc.usp.br/amd16/

- **Conference, special issue and other services**

Local Organizing Committee IbPRIA 2025
Exhibition chair for the ECMR2023
Local Organizing Committee ROBOT2023
Programme and publication chair for the UKRAS19.
AE for the IEEE ICAR 2019, IEEE ITSC 2019-current, IEEE IV 2020-current, IEEE IROS 2022-current.
TPC for IEEE Vehicular Technology Conference (VTC), 2018.
Session Chair of the IEEE ITSC 2015, VEHITS 2018.
Guest Editor for Special Issue on Journal of Behavioural Robotics, 2017.
TPC for the 3rd WS SSIV 2017, IEEE ITSC 2017, ROBOT 2017-19-20-21-22, IEEE ICARSC 2021-22.
Registration Chair of the IEEE RO-MAN 2017.
Registration Co-Chair of the IEEE ITSC 2016.
Member of the local arrangements committee of the IEEE ITSC-2010, IEEE/RSJ IROS-2012.
Visiting researcher at Swiss Federal Institute of Technology (at ASL Lab, ETH-Zurich), Jul-Aug 2008.

- **Reviewer services**

Elsevier RAS; IEEE Trans. on Intelligent Transportation Systems; IEEE Trans. on Cybernetics; MDPI AG Sensors; IEEE Trans. on Industrial Electronics; ETRI Journal; Elsevier Information Fusion; Elsevier Neurocomputing; IEEE Trans. on Vehicular Technology; Elsevier Pattern Recognition Letters; IEEE Magazine on ITS; Elsevier Journal of Systems Architecture; Journal of Field Robotics; Elsevier Journal of Visual Communication and Image Representation; Sage, Int. Journal of Robotics Research; IEEE Trans. Robotics, TPAMI, etc. Reviewer for Int. IEEE conferences: ITSC, IV, IROS, ARSO, ICRA, ICARSC, RO-MAN, etc.

- **Best paper awards**

IP Gomes, C Premebida, DF Wolf (2023). "Interaction-aware Maneuver Prediction for Autonomous Vehicles using Interaction Graphs". In: IEEE Intelligent Vehicles Symposium (IV), 1-8. (***Best Paper Award***)

JSS Junior, J Mendes, R Araujo, JR Paulo, C Premebida (2021). "Novelty Detection for Iterative Learning of MIMO Fuzzy Systems". In: IEEE International Conference on Industrial Informatics (INDIN) (***Best Paper Award***).