Paulo Jorge Lourenço Nunes

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Academic Qualifications

University/Institution	Type	Degree	Period
Instituto Superior Técnico - UTL	PhD	Engenharia Electrotécnica e de Computadores	2007
Instituto Superior Técnico - UTL	M.Sc.	Engenharia Electrotécnica e de Computadores	1995
Instituto Superior Técnico - UTL	Licenciate	Engenharia Electrotécnica e de Computadores	1992

Teaching Activities

Teaching Year	Sem.	Course Name	Degree(s)	Coord.
2026/2027	2º	Fundamentals of Computer Networks	Bachelor Degree in Computer Science and Business Management (PL); Bachelor Degree in Computer Science and Business Management;	No
2026/2027	1º	Multimedia Communication Systems	Master Degree in Telecommunications and Computer Engineering;	Yes
2026/2027	1º	Fundamentals of Multimedia Signal Processing	Institutional Degree in Escola de Tecnologias e Arquitetura;	Yes
2025/2026	2º	Fundamentals of Computer Networks	Bachelor Degree in Computer Science and Business Management (PL); Bachelor Degree in Computer Science and Business Management;	No
2025/2026	1º	Multimedia Communication Systems	Master Degree in Telecommunications and Computer Engineering;	Yes
2025/2026	1º	Fundamentals of Multimedia Signal Processing	Institutional Degree in Escola de Tecnologias e Arquitetura;	No
2024/2025	2º	Fundamentals of Computer Networks	Bachelor Degree in Computer Science and Business Management (PL); Bachelor Degree in Computer Science and Business Management;	No
2024/2025	1º	Multimedia Communication Systems	Master Degree in Telecommunications and Computer Engineering;	Yes
2023/2024	2º	Fundamentals of Computer Networks	Bachelor Degree in Computer Science and Business Management (PL); Bachelor Degree in Computer Engineering (PL); Bachelor Degree in Computer Engineering; Bachelor Degree in Computer Science and Business Management;	No
2023/2024	1º	Multimedia Communication Systems	Master Degree in Telecommunications and Computer Engineering;	Yes
2022/2023	2º	Fundamentals of Computer Networks	Bachelor Degree in Computer Science and Business Management (PL); Bachelor Degree in Computer Science and Business Management;	No
2022/2023	2º	Multimedia Communications		Yes
2022/2023	1º	Multimedia Communication Systems	Master Degree in Telecommunications and Computer Engineering;	Yes
2021/2022	2º	Fundamentals of Computer Networks	Bachelor Degree in Computer Science and Business Management (PL); Bachelor Degree in Computer Science and Business Management;	No
2021/2022	2º	Multimedia Communications		Yes

2021/2022	1º	Multimedia Communication Systems	Master Degree in Telecommunications and Computer Engineering;	Yes
2020/2021	2º	Fundamentals of Computer Networks	Bachelor Degree in Computer Science and Business Management (PL); Bachelor Degree in Computer Engineering (PL); Bachelor Degree in Computer Science and Business Management;	No
2020/2021	2º	Multimedia Communications		Yes
2020/2021	1º	Network Architectures	Bachelor Degree in Computer Science and Business Management (PL); Bachelor Degree in Computer Engineering (PL); Bachelor Degree in Computer Engineering; Bachelor Degree in Computer Science and Business Management; Bachelor Degree in Telecommunications and Computer Engineering;	No
2019/2020	2º	Digital Networks I - Fundamentals		No
2019/2020	2º	Multimedia Communications		Yes
2019/2020	1º	Multidimensional Digital Signal Processing		No

Supervisions

• Post-doc Supervisions

- Concluded

	Student Name	Title/Topic	Language	Institution	Concluding Year
1	Caroline Conti	Light Field Coding and Processing	English	Instituto de Telecomunicações	2019

• Ph.D. Thesis

- Ongoing

	Student Name	Title/Topic	Language	Status	Institution
1	Muhammad Zubair	Light field coding and transmission using deep learning	English	Developing	Iscte

- Concluded

	Student Name	Title/Topic	Language	Institution	Concluding Year
1	Maryam Faleh Awad Hamad	Light Field Processing for Immersive Systems	English	Iscte	2025

2	Ricardo Jorge Santos Monteiro	Scalable light field video representation and coding	--	Iscte	2020
3	Caroline Conti	Efficient Solutions for Light Field Coding	--	Iscte	2017

• M.Sc. Dissertations

- Ongoing

	Student Name	Title/Topic	Language	Status	Institution
1	Pedro De Jesus Pereira Ferraz	Multimodal Scene Depth Estimation using LiDAR and Event Sensors	--	Developing	Iscte
2	Pedro Parente Fonte Santa	Event-Based Gesture Recognition	--	Developing	Iscte
3	Tiago José Martins Alves	Explainable deepfake detection	--	Developing	Iscte

- Concluded

	Student Name	Title/Topic	Language	Institution	Concluding Year
1	Ronielson Baptista Lima	Light Field Saliency Detection using Deep Learning: A Comparative Study	English	Iscte	2022
2	Rui Jorge Silva Passinhas	Integration of Mobile Devices in Home Automation with use of Machine Learning for Object Recognition	English	Iscte	2019
3	Francisco Faria Aleixo	Application for Photogrammetry of Cetaceans and Other Organisms	English	Iscte	2018
4	Lourenço de Mértola Belford Correia da Silva	Quality Assessment of 2D Image Rendering for 4D Light Field Content	English	Iscte	2018
5	Mickaël Rocha da Cunha	A Policy-Based Framework Towards Smooth Adaptive Playback for Dynamic Video Streaming over HTTP	English	Iscte	2018
6	Agostinho Ferreira da Silva	Light Field Processor: A Lytro Illum imaging application	English	Iscte	2016
7	Pedro Miguel Ferreira Lourenço	Retocagem Digital	Portuguese	Iscte	2015
8	David de Oliveira Gonçalves	A Super-Resolution Imaging System	English	Iscte	2015
9	David Miguel Amareleja Fernandes	Fast Stereo Matching Using Local Methods and Mean Shift Segmentation	English	Iscte	2013

Total Citations

Web of Science®	821
Scopus	942

Publications

- **Scientific Journals**

- Scientific journal paper

1	Maqsood, R., Nunes, P., Conti, C. & Soares, L. D. (2026). Deep spatio-temporal and frequency guided fusion network for event-to-video reconstruction. IEEE Open Journal of Signal Processing. 7, 541-550
2	Maqsood, R., Nunes, P., Soares, L. D. & Conti, C. (2026). EcDiff-LLIE: Event-conditional diffusion model for structure-preserving low-light image enhancement. IEEE Open Journal of Signal Processing. 7, 266-275
3	Hamad, M., Conti, C., Nunes, P. & Soares, L. D. (2025). Unsupervised angularly consistent 4D light field segmentation using hyperpixels and a graph neural network. IEEE Open Journal of Signal Processing. 6, 333-347 - Times Cited Web of Science®: 2 - Times Cited Google Scholar: 1
4	Hamad, M., Conti, C., Nunes, P. & Soares, L. D. (2023). Hyperpixels: Flexible 4D over-segmentation for dense and sparse light fields. IEEE Transactions on Image Processing. 32, 3790-3805 - Times Cited Web of Science®: 4 - Times Cited Scopus: 4 - Times Cited Google Scholar: 6
5	Hamad, M., Conti, C., Nunes, P. & Soares, L. D. (2023). Efficient propagation method for angularly consistent 4D light field disparity maps. IEEE Access. 11, 63463-63474 - Times Cited Web of Science®: 1 - Times Cited Scopus: 2 - Times Cited Google Scholar: 2
6	Hamad, M., Conti, C., Nunes, P. & Soares, L. D. (2021). ALFO: Adaptive light field over-segmentation. IEEE Access. 9, 131147-131165 - Times Cited Web of Science®: 6 - Times Cited Scopus: 7 - Times Cited Google Scholar: 8
7	Monteiro, R. J. S., Rodrigues, N. M. M., Faria, S. M. M. & Nunes, P. J. L. (2021). Light field image coding with flexible viewpoint scalability and random access. Signal Processing: Image Communication. 94 - Times Cited Web of Science®: 8 - Times Cited Scopus: 7 - Times Cited Google Scholar: 8
8	Aleixo, F., O'Callaghan, S. A., Soares, L. D., Nunes, P. & Prieto, R. (2020). AragoJ – a free, opensource software to aid single camera photogrammetry studies. Methods in Ecology and Evolution. 11 (5), 670-677 - Times Cited Web of Science®: 12 - Times Cited Scopus: 12 - Times Cited Google Scholar: 12

9	Conti, C., Soares, L. D. & Nunes, P. (2020). Dense light field coding: a survey. IEEE Access. 8, 49244-49284 - Times Cited Web of Science®: 76 - Times Cited Scopus: 79 - Times Cited Google Scholar: 94
10	Monteiro, R., Rodrigues, N., Faria, S. M. M. & Nunes, P. (2020). Light field image coding based on hybrid data representation. IEEE Access. 8, 115728-115744 - Times Cited Web of Science®: 8 - Times Cited Scopus: 8 - Times Cited Google Scholar: 9
11	Conti, C., Soares, L. D. & Nunes, P. (2018). Light field coding with field of view scalability and exemplar-based inter-layer prediction. IEEE Transactions on Multimedia. 20 (11), 2905-2920 - Times Cited Web of Science®: 28 - Times Cited Scopus: 25 - Times Cited Google Scholar: 29
12	Conti, C., Nunes, P. & Soares, L. D. (2018). Light field image coding with jointly estimated self-similarity bi-prediction. Signal Processing: Image Communication. 60, 144-159 - Times Cited Web of Science®: 24 - Times Cited Scopus: 23 - Times Cited Google Scholar: 30
13	Monteiro, R. J. S., Nunes, P. J. L., Rodrigues, N. M. M. & Faria, S. M. M. (2017). Light field image coding using high-order intrablock prediction. IEEE Journal of Selected Topics in Signal Processing. 11 (7), 1120-1131 - Times Cited Web of Science®: 48 - Times Cited Scopus: 45 - Times Cited Google Scholar: 55
14	Conti, C., Soares, L. D. & Nunes, P. (2016). HEVC-based 3D holoscopic video coding using self-similarity compensated prediction. Signal Processing: Image Communication. 42, 59-78 - Times Cited Web of Science®: 85 - Times Cited Scopus: 89 - Times Cited Google Scholar: 107
15	Conti, C., Nunes, P. & Soares, L. D. (2013). Inter-layer prediction scheme for scalable 3-D holoscopic video coding. IEEE Signal Processing Letters. 20 (8), 819-822 - Times Cited Web of Science®: 26 - Times Cited Scopus: 35 - Times Cited Google Scholar: 42
16	Aggoun, A., Tsekleves, E., Swash, M., Zarpalas, D., Dimou, D., Daras, P....Soares, L. D. (2013). Immersive 3D Holoscopic Video System. IEEE MultiMedia. 20 (1), 28-37 - Times Cited Web of Science®: 61 - Times Cited Scopus: 64 - Times Cited Google Scholar: 113
17	Glantz, A., Krutz, A., Sikora, T., Nunes, P. & Pereira, F. (2010). Automatic MPEG-4 sprite coding: comparison of integrated object segmentation algorithms. Multimedia Tools and Applications. 49 (3), 483-512 - Times Cited Web of Science®: 9 - Times Cited Scopus: 9 - Times Cited Google Scholar: 14

18	Nunes, P. & Pereira, F. (2009). Joint rate control algorithm for low-delay MPEG-4 object-based video encoding. IEEE Transactions on Circuits and Systems for Video Technology. 19 (9), 1274-1288 - Times Cited Web of Science®: 9 - Times Cited Scopus: 7 - Times Cited Google Scholar: 12
19	Valentim, J., Nunes, P. & Pereira, F. (2002). Evaluating MPEG-4 video decoding complexity for an alternative video complexity verifier model. IEEE Transactions on Circuits and Systems for Video Technology. 12 (11), 1034-1044 - Times Cited Web of Science®: 22 - Times Cited Scopus: 22 - Times Cited Google Scholar: 32
20	Nunes, P., Marqués, F., Pereira, F. & Gasull, A. (2000). A contour-based approach to binary shape coding using a multiple grid chain code. Signal Processing: Image Communication. 15 (7-8), 585-599 - Times Cited Web of Science®: 31 - Times Cited Scopus: 34 - Times Cited Google Scholar: 46
21	Cortez, D., Nunes, P., Sequeira, M. & F. Pereira (1995). Image segmentation towards new image representation methods. Signal Processing: Image Communication. 6 (6), 485-498 - Times Cited Web of Science®: 32 - Times Cited Scopus: 32 - Times Cited Google Scholar: 64

• Books and Book Chapters

- Book chapter

1	Domaski, M., Grajek, T., Conti, C., Debono, C., Faria, S. M. M., Kovács, P....Stankiewicz, O. (2019). Emerging imaging technologies: trends and challenges. In P. A. Assunção, A. Gotchev (Ed.), 3D visual content creation, coding and delivery. (pp. 5-39). Cham: Springer. - Times Cited Scopus: 2 - Times Cited Google Scholar: 5
2	Conti, C., Soares, L. D., Nunes, P., Perra, C., Assunção, P. A., Sjöström, M....Jennehag, U. (2019). Light field image compression. In Assunção P., Gotchev A. (Ed.), 3D Visual Content Creation, Coding and Delivery. (pp. 143-176). Cham: Springer. - Times Cited Scopus: 2 - Times Cited Google Scholar: 4
3	Conti, C., Nunes, P. & Soares, L. D. (2019). Impact of packet losses in scalable light field video coding. In Assunção P., Gotchev A. (Ed.), 3D Visual Content Creation, Coding and Delivery. (pp. 177-193). Cham: Springer.
4	Conti, C., Soares, L. & Nunes, P. (2015). 3D Holoscopic Video Representation and Coding Technology. In Ahmet Kondoz, Tasos Dagiuklas (Ed.), Novel 3D Media Technologies. (pp. 71-96). Nova Iorque, EUA: Springer New York. - Times Cited Google Scholar: 2
5	Faria, S., Debono, C., Nunes, P. & Rodrigues, N. (2015). 3D video representation and coding. In Ahmet Kondoz, Tasos Dagiuklas (Ed.), Novel 3D media technologies. (pp. 25-48). New York: Springer. - Times Cited Google Scholar: 1
6	Soares, L. & Nunes, P. (2013). Network-Aware Error Resilient Video Coding. In Ce Zhu, Yuenan Li (Ed.), Advanced Video Communications over Wireless Networks. (pp. 1-26). Boca Raton, Florida, EUA: CRC Press.

7	Nunes, P. & Soares, L. (2010). Rate control and error resilience for object-based video coding. In Chang Wen Chen, Zhu Li, Shiguo Lian (Ed.), Intelligent Multimedia Communication: Techniques and Applications. (pp. 1-50).: Springer.
8	Nunes, P. & Pereira, F. (2002). Levels for visual profiles. In Fernando Pereira, Touradj Ebrahimi (Ed.), The MPEG-4 Book. (pp. 753-779).: Prentice Hall.

• Conferences/Workshops and Talks

- Publication in conference proceedings

1	Zubair, M., Nunes, P., Conti, C. & Soares, L. D. (2025). Swinscale-LFVS: Parallel Feature Integration for Light Field View Synthesis. In 2025 IEEE International Conference on Image Processing (ICIP). (pp. 1942-1947). Anchorage, AK, USA: IEEE.
2	Zubair, M., Nunes, P., Conti, C. & Soares, L. D. (2025). LFVS-Mamba: State-space model for light field view synthesis. In 2025 International Conference on Visual Communications and Image Processing, VCIP 2025. Klagenfurt, Austria: IEEE.
3	Ramna Maqsood, Nunes, P., Soares, L. D. & Conti, C. (2025). Efficient Frequency-Aware Multiscale Vision Transformer for Event-to-Video Reconstruction. In 2025 33rd European Signal Processing Conference (EUSIPCO). (pp. 606-610). Palermo, Italy: IEEE. - Times Cited Scopus: 1 - Times Cited Google Scholar: 1
4	Ramna Maqsood, Nunes, P., Conti, C. & Soares, L. D. (2025). WaveE2VID: Frequency-Aware Event-Based Video Reconstruction. In 2025 IEEE International Conference on Image Processing (ICIP). (pp. 570-575). Anchorage, AK, USA: IEEE. - Times Cited Scopus: 2 - Times Cited Google Scholar: 2
5	Zubair, M., Nunes, P., Conti, C. & Soares, L. D. (2024). Light field view synthesis using deformable convolutional neural networks. In 2024 Picture Coding Symposium, PCS 2024, Proceedings. (pp. 1-5). Taichung, Taiwan: IEEE. - Times Cited Web of Science®: 2 - Times Cited Scopus: 5 - Times Cited Google Scholar: 5
6	Hamad, M., Conti, C., Nunes, P. & Soares, L. D. (2022). View-consistent 4D Light Field style transfer using neural networks and over-segmentation. In 2022 IEEE 14th Image, Video, and Multidimensional Signal Processing Workshop (IVMSP). Nafplio: IEEE. - Times Cited Web of Science®: 1 - Times Cited Scopus: 2 - Times Cited Google Scholar: 3
7	Hamad, M., Conti, C., Almeida, A. M. de., Nunes, P. & Soares, L. D. (2021). SLFS: Semi-supervised light-field foreground-background segmentation. In 2021 Telecoms Conference (ConfTELE). Leiria: IEEE. - Times Cited Scopus: 3 - Times Cited Google Scholar: 5
8	Passinhas, R., Marinheiro, R. N. & Nunes, P. (2020). Integration of mobile devices in home automation with use of machine learning for object recognition. In EATIS '20: Proceedings of the 10th Euro-American Conference on Telematics and Information Systems. Aveiro: Association for Computing Machinery. - Times Cited Google Scholar: 2

9	Cunha, M., Moura, J. & Nunes, P. (2019). A SDN-based solution towards smooth adaptive playback for dynamic video streaming over HTTP. In Fernando José da Silva Velez (Ed.), Conftele 2019 : Proceedings of the 11th Conference on Telecommunications. Lisboa: Ordem dos Engenheiros (OE).
10	Monteiro, R. J. S., Rodrigues, N. M. M., Faria, S. M. M. & Nunes, P. J. L. (2019). Optimized reference picture selection for light field image coding. In Bugallo, M. F., and Castedo, L. (Ed.), 2019 27th European Signal Processing Conference (EUSIPCO). A Coruna, Spain: IEEE. - Times Cited Web of Science®: 1 - Times Cited Scopus: 3
11	Pereira, H., Salgueiro, M. F. & Nunes, P. (2018). The relationships between portuguese banks and their customers in a recessionary context. In The Academy of Business and Retail Management (Ed.), 7th International Conference on Business and Economic Development (ICBED). (pp. 340-351). Nova Iorque
12	Monteiro, R. J. S., Rodrigues, N. M. M., Faria, S. M. M. & Nunes, P. J. L. (2018). Light field image coding: objective performance assessment of Lenslet and 4D LF data representations. In Andrew G. Tescher (Ed.), SPIE Optical Engineering + Applications. San Diego: SPIE. - Times Cited Web of Science®: 4 - Times Cited Google Scholar: 9
13	Monteiro, R. J. S., Nunes, P. J. L., Faria, S. M. M. & Rodrigues, N. M. M. (2018). Light field image coding using high order prediction training. In 26th European Signal Processing Conference, EUSIPCO 2018. (pp. 1845-1849). Roma: IEEE. - Times Cited Web of Science®: 2 - Times Cited Scopus: 2 - Times Cited Google Scholar: 3
14	Conti, C., Soares, L. D. & Nunes, P. (2018). Scalable light field coding with support for region of interest enhancement. In 2018 26th European Signal Processing Conference (EUSIPCO). (pp. 1855-1859). Roma: IEEE. - Times Cited Web of Science®: 5 - Times Cited Scopus: 5 - Times Cited Google Scholar: 6
15	Conti, C., Nunes, P. & Ducla Soares, L. (2017). Weighted bi-prediction for light field image coding. In Tescher A.G. (Ed.), Applications of Digital Image Processing XL 2017. San Diego: SPIE. - Times Cited Scopus: 1 - Times Cited Google Scholar: 1
16	Monteiro, R., Lucas, L., Conti, C., Nunes, P., Rodrigues, N., Faria, S....Soares, L. (2016). Light field HEVC-based image coding using locally linear embedding and self-similarity compensated prediction. In 2016 IEEE International Conference on Multimedia and Expo Workshops (ICMEW). Seattle, WA, USA : IEEE. - Times Cited Web of Science®: 80 - Times Cited Scopus: 76 - Times Cited Google Scholar: 106
17	Conti, C., Soares, L. D. & Nunes, P. (2016). Improved inter-layer prediction for Light field content coding with display scalability. In Tescher A. G. (Ed.), Proceedings of SPIE Optical Engineering + Applications - Applications of Digital Image Processing XXXIX. San Diego: SPIE. - Times Cited Web of Science®: 1 - Times Cited Google Scholar: 3

18	Conti, C., Nunes, P. & Soares, L. D. (2016). HEVC-based light field image coding with bi-predicted self-similarity compensation. In 2016 IEEE International Conference on Multimedia & Expo Workshops (ICMEW). Seattle, WA, USA: IEEE. - Times Cited Web of Science®: 59 - Times Cited Scopus: 82 - Times Cited Google Scholar: 105
19	Ricardo Monteiro, Conti, C., Nunes, P., N. Rodrigues, S. M. M. Faria & Soares, L. (2015). HEVC Compatible 3D Holoscopic Image Coding using Multiple Partitions. In Conference on Telecommunications (ConfTele). (pp. 1-4). Aveiro
20	Conti, C., Lucas, L., Nunes, P., Soares, L., Rodrigues, N., Pagliari, C....Faria, S. (2014). Locally linear embedding-based prediction for 3D holoscopic image coding using HEVC. In Proceedings of the 22nd European Signal Processing Conference (EUSIPCO). Lisbon: IEEE. - Times Cited Web of Science®: 53 - Times Cited Scopus: 49 - Times Cited Google Scholar: 64
21	Conti, C., Kovács, P., Balogh, T., Nunes, P. & Soares, L. (2014). Light-field video coding using geometry-based disparity compensation. In 3DTV-Conference: The true vision: capture, transmission and display of 3D video (3DTV-CON) , Proceedings. (pp. 1-4). Budapest: IEEE. - Times Cited Scopus: 14 - Times Cited Google Scholar: 28
22	Conti, C., Nunes, P. & Soares, L. D. (2014). Impact of packet losses in scalable 3D holoscopic video coding. In Schelkens, P., Ebrahimi, T., Cristóbal, G., Truchetet, F., and Saarikko, P. (Ed.), SPIE Photonics Europe - Optics, Photonics, and Digital Technologies for Multimedia Applications III. Bruxelas: Society of Photo-Optical Instrumentation Engineers. - Times Cited Scopus: 1 - Times Cited Google Scholar: 3
23	A. Aggoun, O. Fatah, J. Fernández, Conti, C., Nunes, P. & Soares, L. (2013). Acquisition, processing and coding of 3D holoscopic content for immersive video systems. In 3DTV-Conference (3DTV-CON). (pp. 1-4). Aberdeen: IEEE. - Times Cited Scopus: 13 - Times Cited Google Scholar: 19
24	Conti, C., Nunes, P. & Soares, L. (2013). Using self-similarity compensation for improving inter-layer prediction in scalable 3D holoscopic video coding. In SPIE Optics and Photonics - Applications of Digital Image Processing XXXVI. (pp. 1-13). San Diego, California, EUA: SPIE. - Times Cited Web of Science®: 2 - Times Cited Scopus: 6 - Times Cited Google Scholar: 9
25	Conti, C., Nunes, P. & Soares, L. (2013). 3D Holoscopic Video Coding Based on HEVC with Improved Spatial and Temporal Prediction. In Conference on Telecommunications (ConfTele). (pp. 1-4). Castelo Branco - Times Cited Google Scholar: 3
26	Conti, C., Nunes, P. & Soares, L. (2012). New HEVC Prediction Modes for 3D Holoscopic Video Coding. In IEEE (Ed.), IEEE International Conference on Image Processing (ICIP). (pp. 1325-1328). Orlando: IEEE. - Times Cited Web of Science®: 38 - Times Cited Scopus: 45 - Times Cited Google Scholar: 63

27	Conti, C., Soares, L. & Nunes, P. (2012). Influence of Self-Similarity on 3D Holoscopic Video Coding Performance. In Brazilian Symposium on Multimedia and the Web (WebMedia). (pp. 131-134). São Paulo: ACM. - Times Cited Scopus: 10 - Times Cited Google Scholar: 13
28	Conti, C., Lino, J., Nunes, P. & Soares, L. D. (2012). Spatial and temporal prediction scheme for 3D holoscopic video coding based on H.264/AVC. In 2012 19th International Packet Video Workshop (PV). (pp. 143-148). Munich-Garching: IEEE. - Times Cited Scopus: 6 - Times Cited Google Scholar: 13
29	Conti, C., Lino, J., Nunes, P., Soares, L. D. & Correia, P. L. (2011). Spatial prediction based on self-similarity compensation for 3D holoscopic image and video coding. In IEEE (Ed.), 18th IEEE International Conference on Image Processing. (pp. 961-964). Brussels: IEEE. - Times Cited Web of Science®: 19 - Times Cited Scopus: 23 - Times Cited Google Scholar: 34
30	Conti, C., J. Lino, P. Nunes, L. D. Soares & P. L. Correia (2011). Improved Spatial Prediction for 3D Holoscopic Image and Video Coding. In EURASIP (Ed.), European Signal Processing Conference (EUSIPCO). (pp. 378-382). Barcelona: EURASIP. - Times Cited Web of Science®: 8 - Times Cited Scopus: 8 - Times Cited Google Scholar: 13
31	J. Dick, H. Almeida, L. D. Soares & P. Nunes (2011). 3D Holoscopic Video Coding using MVC. In IEEE (Ed.), IEEE International Conference on Computer as a Tool (EUROCON). (pp. 0-0). Lisbon: IEEE. - Times Cited Scopus: 20 - Times Cited Google Scholar: 26
32	Nunes, P., Soares, L. & F. Pereira (2009). Automatic and adaptive network-aware macroblock intra refresh for error-resilient H. 264/AVC video coding. In IEEE International Conference on Image Processing (ICIP). (pp. -). Cairo - Times Cited Web of Science®: 5 - Times Cited Scopus: 9 - Times Cited Google Scholar: 20
33	Soares, L., Nunes, P. & F. Pereira (2008). Efficient Network-Aware Macroblock Mode Decision for Error Resilient H.264/AVC Video Coding. In SPIE - Applications of Digital Image Processing XXXI. (pp. -). - Times Cited Scopus: 4 - Times Cited Google Scholar: 4
34	Krutz, A., Glantz, A., Sikora, T., Nunes, P. & F. Pereira (2008). Automatic Object Segmentation Algorithms for Sprite Coding using MPEG-4. In International Symposium ELMAR. (pp. -). - Times Cited Web of Science®: 3 - Times Cited Scopus: 5 - Times Cited Google Scholar: 9
35	Nunes, P., Soares, L. & F. Pereira (2008). Error Resilient Macroblock Rate Control for H.264/AVC Video Coding. In IEEE International Conference on Image Processing (ICIP). (pp. -). - Times Cited Web of Science®: 7 - Times Cited Google Scholar: 21

36	Nunes, P. & F. Pereira (2007). Rate Control Architecture for Joint Object-based MPEG-4 Video Encoding. In Conf. on Telecommunications - ConfTele. Peniche, Portugal - Times Cited Google Scholar: 1
37	Nunes, P. & F. Pereira (2007). Improved Feedback Compensation Mechanisms for Multiple Video Object Encoding Rate Control. In IEEE International Conference on Image Processing (ICIP). (pp. -). - Times Cited Scopus: 1 - Times Cited Google Scholar: 2
38	Nunes, P., Pastuszak, G., Pietrasiewicz, A. & F. Pereira (2007). Joint Bit-Allocation for Multi-Sequence H.264/AVC Video Coding RateControl. In Picture Coding Symposium (PCS). Lisboa, Portugal - Times Cited Google Scholar: 2
39	Simões, J., Costa, R., Nunes, P., Lopes, R. & Mathy, L. (2006). An architecture for centralized SIP-based audio conferencing using application layer multicast. In PGNet 2006 - The 7th Annual PostGraduate Symposium on The Convergence of Telecommunications, Networking and Broadcasting. (pp. 383-387). Liverpool, UK: Liverpool John Moores University, School of Computing & Mathematical Sciences.
40	Pietrowcew, A, Nunes, P., Buchowicz, A. & Skarbek, W. (2005). Bitrate Control Techniques for Video Coding with Region of Interest. In National Conf. on Radiocommunications and Broadcasting. (pp. 73-82).
41	Pietrowcew, A, Buchowicz, A., Skarbek, W. & Nunes, P. (2005). Improved ROI Dependent Bit Allocation for Video Coding. In Workshop On Immersive Communication And Broadcast Systems. (pp. -).
42	Nunes, P. & F. Pereira (2004). Rate and Distortion Modeling Analysis for MPEG-4 Video Intra Coding. In Workshop on Image Analysis for Multimedia Interactive Services (WIAMIS). - Times Cited Google Scholar: 2
43	Nunes, P. & F. Pereira (2004). Rate and Distortion Models for MPEG-4 Video Encoding. In SPIE - Applications of Digital Image Processing XXVII. (pp. 382-394). - Times Cited Web of Science®: 2 - Times Cited Scopus: 2 - Times Cited Google Scholar: 3
44	Valentim, J., Nunes, P. & Pereira, F. (2001). IST MPEG-4 Video Compliant Framework. In Conf. on Telecommunications - ConfTele. (pp. 442-446). - Times Cited Google Scholar: 6
45	Nunes, P. & Pereira, F. (2001). Scene Level Rate Control Algorithm for MPEG-4 Video Encoding. In Visual Communications and Image Processing (VCIP). (pp. 194-205). - Times Cited Web of Science®: 12 - Times Cited Google Scholar: 19
46	Valentim, J., Nunes, P. & F. Pereira (2001). Evaluating MPEG-4 video decoding complexity. In Workshop and Exhibition on MPEG-4. (pp. -). - Times Cited Scopus: 2 - Times Cited Google Scholar: 4
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- Talk

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2	Zubair, M., Nunes, P., Conti, C. & Soares, L. D. (2025). LFVS-Mamba: State-Space Model for Light Field View Synthesis. 2025 International Conference on Visual Communications and Image Processing (VCIP).

3	Ramna Maqsood, Nunes, P., Soares, L. D. & Conti, C. (2025). Efficient Frequency-Aware Multiscale Vision Transformer for Event-to-Video Reconstruction. 2025 33rd European Signal Processing Conference (EUSIPCO).
4	Ramna Maqsood, Nunes, P., Conti, C. & Soares, L. D. (2025). WaveE2VID: Frequency-Aware Event-Based Video Reconstruction. 2025 IEEE International Conference on Image Processing (ICIP).
5	Zubair, M., Nunes, P., Conti, C. & Soares, L. D. (2024). Light Field View Synthesis Using Deformable Convolutional Neural Networks. 2024 Picture Coding Symposium (PCS).
6	Hamad, M., Conti, C., Nunes, P. & Soares, L. D. (2022). View-consistent 4D Light Field Style Transfer using Neural Networks and Over-segmentation. 2022 IEEE 14th Image, Video, and Multidimensional Signal Processing Workshop (IVMSP).
7	Hamad, M., Conti, C., de Almeida, A., Nunes, P. & Soares, L. D. (2021). SLFS: Semi-supervised Light-field Foreground-background Segmentation. 2021 Telecoms Conference (ConfTELE).
8	Monteiro, R., Ricardo Monteiro, N. Rodrigues, S. M. M. Faria & Nunes, P. (2019). Optimized Reference Picture Selection for Light Field Image Coding. 2019 27th European Signal Processing Conference (EUSIPCO). - Times Cited Web of Science®: 3
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15	Conti, C., Soares, L. & Nunes, P. (2016). Improved inter-layer prediction for light field content coding with display scalability. SPIE Optics and Photonics - Applications of Digital Image Processing XXXIX. 9971 - Times Cited Web of Science®: 1 - Times Cited Scopus: 3
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24	Conti, C., J. Lino, Nunes, P. & Soares, L. (2012). Spatial and temporal prediction scheme for 3D holoscopic video coding based on H.264/AVC. 19th International Packet Video Workshop (PV). 143-148
25	Conti, C., Soares, L. & Nunes, P. (2012). Influence of self-similarity on 3D holoscopic video coding performance. Brazilian symposium on Multimedia and the web (WebMedia). 131-134
26	Conti, C., Nunes, P. & Soares, L. (2012). New HEVC prediction modes for 3D holoscopic video coding. IEEE International Conference on Image Processing (ICIP). 1325-1328
27	Conti, C., J. Lino, Nunes, P., Soares, L. & P. L. Correia (2011). Spatial Prediction Based on Self-Similarity Compensation for 3D Holoscopic Image and Video Coding. 18th IEEE International Conference on Image Processing (ICIP). 961-964
28	Nunes, P., Soares, L. & F. Pereira (2009). Automatic and adaptive network-aware macroblock intra refresh for error-resilient H. 264/AVC video coding. IEEE International Conference on Image Processing (ICIP). -, -
29	Soares, L., Nunes, P. & F. Pereira (2008). Efficient Network-Aware Macroblock Mode Decision for Error Resilient H.264/AVC Video Coding. SPIE - Applications of Digital Image Processing XXXI. -, -
30	Krutz, A., Glantz, A., Sikora, T., Nunes, P. & F. Pereira (2008). Automatic Object Segmentation Algorithms for Sprite Coding using MPEG-4. International Symposium ELMAR. -, -
31	Nunes, P., Soares, L. & F. Pereira (2008). Error Resilient Macroblock Rate Control for H.264/AVC Video Coding. IEEE International Conference on Image Processing (ICIP). -, -
32	Nunes, P. & F. Pereira (2007). Improved Feedback Compensation Mechanisms for Multiple Video Object Encoding Rate Control. IEEE International Conference on Image Processing (ICIP). -, -
33	Nunes, P. & F. Pereira (2004). Rate and Distortion Models for MPEG-4 Video Encoding. SPIE - Applications of Digital Image Processing XXVII. 5558, 382-394

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- Conference paper not in proceedings

1	Gonçalves, T., Lopes, Rui J. & Nunes, P. (2010). Using metadata in video quality assessment based on the structural similarity (SSIM) index metric. International Workshop on Quality of Experience for Multimedia Content Sharing - QoEMCS. -, - - Times Cited Google Scholar: 3

• Other Publications

- Non-peer-reviewed papers

1	Conti, C., Nunes, P. & Soares, L. (2014). Display Scalable 3D Holoscopic Video Coding. IEEE COMSOC MMTC E-Letter. 9 (3), 12-15 - Times Cited Google Scholar: 1
2	Nunes, P. & Pereira, F. (2009). Rate Control for Efficient Video Communications. IEEE COMSOC MMTC E-Letter. 4 (6), 23-25

Research Projects

Project Title	Role in Project	Partners	Period
Light Field Processing for Immersive Media Streaming Applications	Researcher	IT-Iscte, IT - Leader (Portugal)	2021 - 2024
Light Field Processing and Encoding System	Global Coordinator	IT-Iscte (MSP-IUL)	2016 - 2018
Scalable Error Resilient 3D Holoscopic Video Coding for Immersive Systems	Global Coordinator	IT-Iscte	2014 - 2016
MOG-QC on the GO - Desenvolvimento de um sistema integrado de controlo da qualidade de conteúdos audiovisuais	Researcher	IT-Iscte (MSP-IUL)	2013 - 2015
3D Content Creation, Coding and Transmission over Future Media Networks	Local Coordinator	IT-Iscte	2012 - 2016

Remote Piloted Semi-Autonomous Aerial Surveillance System Using Terrestrial Wireless Networks	Researcher	IT-Iscte	2012 - 2014
Live Immerse Video-Audio Interactive Multimedia	Global Coordinator	IT-Iscte (MSP-IUL)	2020
ISO MPEG standardization	Local Coordinator	IT-Iscte (MSP-IUL)	2007 - 2020
Networked audiovisual media technologies II	Local Coordinator	IT-Iscte (MSP-IUL)	2006 - 2009
Mobile multimedia systems	Local Coordinator	IT-Iscte (MSP-IUL)	1999 - 2005
Normalização de métodos avançados de representação de vídeo	Researcher	IT-Iscte (MSP-IUL)	1995 - 1998
Processamento digital de áudio e vídeo	Researcher	IT-Iscte (MSP-IUL)	1995 - 1998
Normalização de comunicações de imagem	Local Coordinator	IT-Iscte (MSP-IUL)	2020
Mobile audiovisual terminal	Local Coordinator	IT-Iscte (MSP-IUL)	1995 - 2005

Academic Management Positions

Coordenador do 2º Ano (2025 - 2027)
Unit/Area: Bachelor Degree in Computer Science and Business Management (PL)

Coordenador do 2º Ano (2025 - 2026)
Unit/Area: Bachelor Degree in Computer Science and Business Management

Coordenador do 2º Ano (2024 - 2025)
Unit/Area: Bachelor Degree in Computer Science and Business Management (PL)

Coordenador do 2º Ano (2024 - 2025)
Unit/Area: Bachelor Degree in Computer Science and Business Management

Director (2016 - 2018)
Unit/Area: Bachelor Degree in Telecommunications and Computer Engineering

Director (2016 - 2019)
Unit/Area: [8365] Telecommunications and Computer Engineering (PL)

Director (2013 - 2016)
Unit/Area: [8365] Telecommunications and Computer Engineering (PL)

Director (2013 - 2016)
Unit/Area: Bachelor Degree in Telecommunications and Computer Engineering

Sub-diretor (2013 - 2016)
Unit/Area: Department of Information Science and Technology

Membro (Docente) (2013 - 2016)
Unit/Area: Comissão Científica