MINISTERIO DE CIENCIA E INNOVACIÓN

CURRICULUM VITAE

AGENCIA ESTATAL DE INVESTIGACIÓN

CV date	14/2/2025

Part A. PERSONAL INFORMATION

First and Family name	Iván González Díaz		
ID number	09441603B	Age	43
Researcher codes	Open Researcher and Contributor ID	0000-0003-4644-8479	
	SCOPUS Author ID	18041822200	
	WoS Researcher ID	L-5103-2014	

A.1. Current position

Name of University/Institution	Universidad Carlos III de Madrid			
Department	Signal Theory and Communications			
Address and Country	Avda. de la Universidad, 30, 28911, Leganés. Madrid. Spain			
Phone number	916248740	E-mail	igonzalez@tsc.uc3m.es	
Current position	Associate Professor		From	28/09/2020
Key words	Computer Vision, Machine Learning, Image & Video Processing			

A.2. Education

PhD, Licensed, Graduate	University	Year
Engineer in Telecommunications	Universidad de Valladolid	2005
MSc in Multimedia and Communications	Universidad Carlos III de Madrid	2007
PhD in Multimedia and Communications	Universidad Carlos III de Madrid	2011

A.3. General indicators of quality of scientific production

#22 full articles in JCR indexed journals (since 2008): 17 are Q1 (9 as 1st author), and 5 in Q2.
#2 chapters in International Books (Springer), being 1st authors in both.
#Citations (14/2/2025): **865 (Google Scholar); 466 (Scopus); 370 (Web of Science)**
#h-index (14/2/2025): 15 (Google Scholar); 11 (Scopus); 10 (Web of Science)
#Average citations/year (last 5 years): 112.6 (Google Scholar), 62.4 (Scopus), 55.2 (Web of Science).
#Supervision of PhD Thesis (from 2010): 5 (currently supervising 2)
#Research merits: Two six-year terms recognized by CNEAI following RD 1086/89

Part B. CV SUMMARY *(max. 3500 characters, including spaces)*

Iván González-Díaz earned his Telecommunications Engineering degree from Universidad de Valladolid in 1999 and his M.Sc. and Ph.D. from Universidad Carlos III de Madrid in 2007 and 2011. He is currently an Associate Professor in the Signal Theory and Communications Department at Universidad Carlos III de Madrid.

His research focuses on computer vision, machine learning, and biomedical image processing. He has participated in 23 R&D projects, serving as Principal Investigator (PI) in two, and contributed to the European Commission-funded *Dem@care* project. In industry, he has collaborated on 13 contracts, acting as PI in four. He has contributed to projects totaling €6.7M, managing €331k directly as PI.

Dr. González-Díaz has published 22 journal articles in top-tier journals such as *Nature, Pattern Recognition, Medical Image Analysis,* and several *IEEE Transactions*. Of these, 17 are in 1st-quartile journals, with 9 as first author. He has also authored two book chapters and 18 peer-reviewed conference papers. He has co-authored two licensed software programs: (a) *Azor* to Laboratorio Hipermedia SL, and (b) AI-based nephrology ultrasound diagnostic system, to Transmural Biotech SL.

He has completed three research stays: Dublin City University (2007) and two at the University of Bordeaux (2013, 2017). He has given invited lectures at CIIRC, Honda Research Germany, and conference ISBI'16. His international collaborations include researchers from the University of Bordeaux, Purdue University, the Donders Institute, and Yale University.

Dr. González-Díaz has supervised 5 Ph.D. theses and currently mentors two doctoral students. He has participated in evaluation panels for FCT Portuguese Projects (2020, 2021) and the Spanish National Research Agency, and regularly reviews for top journals and conferences.

His research has been recognized with several awards, including First Place (Seborrheic Keratosis) and Second Global Place in the 2017 ISIC Challenge on Skin Lesion Analysis, as well as a cover feature in *IEEE Journal of Biomedical and Health Informatics* (March 2019).

Part C. RELEVANT MERITS *(sorted by typology)*

C.1. Publications

22 articles in JCR indexed journals, 2 chapters in international books. *Selected publications:*

1.- I. González-Díaz, M. Molina-Moreno, J. Benois-Pineau and A. de Rugy, "Asymmetric Multi-Task Learning for Interpretable Gaze-Driven Grasping Action Forecasting," in IEEE Journal of Biomedical and Health Informatics, vol. 28, no. 12, pp. 7517-7530, Dec. 2024. **Q1 (26/250)** Engineering, Electrical & Electronic. **IF: 6.7** (JCR 2023)

2.- M. Molina-Moreno, I. González-Díaz, R. Mikut, F. Díaz-de-María, A self-supervised embedding of cell migration features for behavior discovery over cell populations, Computer Methods and Programs in Biomedicine, Volume 255, 2024, 108337, ISSN 0169-2607**. Q1 (30/123)** Engineering, Biomedical. **IF: 4.9** (JCR 2023)

3.- M. Molina-Moreno, I. González-Díaz, M. Rivera Gorrín, V. Burguera Vion, F. Díaz de María. URI-CADS: A Fully Automated Computer-Aided Diagnosis System for Ultrasound Renal Imaging. Journal of Imaging Informatics in Medicine, 1-17, 2024. **Q2 (60/204)** Radiology, Nuclear Medicine & medical Imaging**. IF: 2.9** (JCR 2023)

4.- J. López-Labraca, I. González-Díaz, F. Díaz-de-María. An Interpretable CNN-based CAD system for Skin Lesion Diagnosis. Artificial Intelligence in Medicine, Volume 132, 2022, 102370, ISSN 0933-3657**. Q1 (31/145)** Computer Science, Artificial Intelligence. **IF: 7.50** (JCR 2022)

5. M. Molina-Moreno, I. González-Díaz, J. Sicilia, G. Crainiciuc, M. Palomino-Segura, A. Hidalgo, F. Díaz-de-María. ACME: Automatic feature extraction for Cell Migration Examination through intravital microscopy imaging. Medical Image Analysis, 2022, 102358. **Q1 (11/145)** Computer Science, Artificial Intelligence. **IF: 10.9** (JCR 2022)

6. G. Crainiciuc, M. Palomino-Segura, M. Molina-Moreno, J. Sicilia, …, I. González-Díaz, F. Díaz-de-María and A. Hidalgo, Behavioral immune landscapes of inflammation, Nature 601, 415–421 (2022). **Q1 (1/73)** Multidisciplinary Sciences. **IF: 64.8** (JCR 2022)

7. T. Martínez-Cortés, I. González-Díaz, F. Díaz-de-María, Training deep retrieval models with noisy datasets: Bag exponential loss, Pattern Recognition, Volume 112, 2021, 107811, ISSN 0031-3203. **Q1 (22/145)** Engineering, Electrical & Electronic. **IF: 8.518** (JCR 2021)

8. M.A. Fernández-Torres, I. González-Díaz and F. Díaz-de-María, "Probabilistic Topic Model for Context-Driven Visual Attention Understanding," in IEEE Transactions on Circuits and Systems for Video Technology, vol. 30, no. 6, pp. 1653-1667, June 2020. **Q1 (43/273)** Engineering, Electrical & Electronic. **IF: 4.685** (JCR 2020)

9. I. González-Díaz, J. Benois-Pineau, JP. Domenger, D. Cattaert, A. de Rugy, Perceptually-guided deep neural networks for ego-action prediction: Object grasping, Pattern Recognition, Volume 88, 2019, Pages 223-235. **Q1 (18/266)** Engineering, Electrical & Electronic. **IF: 7.196** (JCR 2019)

10. I. González-Díaz, "DermaKNet: Incorporating the Knowledge of Dermatologists to Convolutional Neural Networks for Skin Lesion Diagnosis," in IEEE Journal of Biomedical and Health Informatics, vol. 23, no. 2, pp. 547-559, March 2019. **Q1 (15/156)** Computer Science, Information Systems. **IF: 5.233** (JCR 2019).

11. M. Molina-Moreno, I. González-Díaz and F. Díaz-de-María, "Efficient Scale-Adaptive License Plate Detection System," in IEEE Transactions on Intelligent Transportation Systems, vol. 20, no. 6, pp. 2109-2121, **Q1 (23/266)** Engineering, Electrical & Electronic. **IF: 6.319** (JCR 2019)

12. E. Pla-Sacristán, I. González Díaz, T. Martínez-Cortés and F. Díaz-de-María. Finding landmarks within settled areas using hierarchical density-based clustering and meta-data from publicly available images. Expert Systems with Applications. 123, June 2019. **Q1 (32/266)** Engineering, Electrical & Electronic. **IF: 5.452** (JCR 2019)

C.2. Per-reviewed international conferences

19 papers in revised international conferences. *Selected contributions:*

1.- S. Abal-Fernández, C. Caramazana-Zarzosa, MB Loureiro-Casalderrey, S. Martínez, C. Balaguer, F. Díaz-de-María, I. González-Díaz, “Learning RL policies for anticipative assistive robots by simulating human-robot interactions in real scenarios using egocentric videos”, 2023 IEEE International Conference on Robotics and Biomimetics (ROBIO).

2.- S. Mick, D. Cattaert, J. Benois-Pineau, I. González Díaz, P. Yves Oudeye, A. de Rugy. Hybrid sensorimotor control to increase fundamental knowledge and improve human-robot interactions. Neural Control of Movement 2020 Annual Meeting, 04/2020

3.- T. Martínez-Cortés, I. González-Díaz and F. Díaz-de-María. Automatic Learning of Image Representations combining Content and Meta-data. In 2018 25th IEEE International Conference on Image Processing (ICIP), Athens, 2018, pp. 1972-1976.

4.- I. González Díaz, J. Benois-Pineau, J.P. Domenger and A. de Rugy. Perceptually-guided understanding of egocentric video content: recognition of objects to grasp. In Proceedings of the 2018 ACM on International Conference on Multimedia Retrieval (ICMR '18). ACM, New York, NY, USA, 434-441.

5.- V. Buso, I. González Díaz, J. Benois-Pineau. Object Recognition with top-down visual attention modeling for behavioral studies. In IEEE International Conference on Image Processing, 2015. *Selected as Top 10% ICIP 2015 papers*.

C.3 Research projects

Total funding as researcher: 5.73M€. Total Funding as Principal Investigator: 127k€. Selected projects

1.-"Improved Deep Learning for Computer Vision (IDEAL-CV)" Red: TEC2024/COM-322. Funding Agency: Comunidad de Madrid. Duration: 2025-2027. PI: Marcelo Bertalmio. Budget: 1.026M€.

2.- Validación de biomarcadores de imágenes tomográficas como predictores de la necesidad de queratoplastia tras cirugía de cataratas en la distrofia corneal de Fuchs: estudio multicéntrico y diagnóstico asistido por inteligencia artificial. Ref: PI22/01252. Funding Agency: Instituto de Salud Carlos III. PI: Dr. Francisco Arnalich. Duration: 2023-2025. Budget: 26k€.

2. "A HumAn-centered Visual Artificial INTelligence (HAVANT)". Ref: PID2020-118504GB-I00. Funding Agency: Ministry of Economy and Competitiveness. Duration: 09/2021 - 08/2024. PI: Dr. Fernando Díaz de María and Dr. **Iván González Díaz**. Budget: 67.639 €

3.- "Artificial Intelligence and Cognitive Models for a symmetric Human-Robot Interaction in the field of assistive robotics (COMPANION-CM). Funding Agency: Comunidad de Madrid. Duration: 2021-2024. PI: Dr. Carlos Balaguer Bernaldo de Quirós. Budget: 624.580€

4.- "Sistema de atención domiciliaria inteligente e interactivo para la mitigación de la pandemia del COVID-19 (IntCARE)". Ayudas Proyectos de I+D en materia de respuesta a Covid -19 Financiados por el FEDER - RECT-UE. 01/02/2020 - 31/12/2022. PI: Antonio Artés. Presupuesto: 1.678.000,00 €.

4. "Artificial Intelligence and cognitive models for Symmetric HumAn RobOt iNteraction (SHARON-CM-UC3M)". Funding Agency: Comunidad de Madrid – UC3M. Duration: 01/01/2020 - 31/12/2021. PI: Dr. **Iván González Díaz** and Dr. Santiago Martínez de la Casa. Budget: 59.900 €

5. Salience and Attention: Representation, Interpretation and Emergency (SAPIENS). Ref: TEC2017-84395-P. Funding Agency: Ministry of Economy and Competitiveness. Participants: Universidad Carlos III de Madrid. 01/2018– 12/2021. PI: C. Peláez-Moreno and A. Gallardo-Antolín. Budget: 173.030,00 €.

7. "Escaparate Interactivo Turístico (ESITUR)". Ref.: RTC-2016-5305-7. Funding Agency: Ministry of Economy and Competitiveness – National Research Agency. Participants: Movilok Interactividad Móvil, S.L.; Universidad Politécnica de Madrid & Universidad Carlos III de Madrid. 09/2016 – 12/2018. PI UC3M: Dr. F. Díaz-de-María. UC3M budget: 180.884,64 €. Total Budget: 718.820,23 €

8. Dem@care (DEMENTIA AMBIENT CARE). Ref: FP7/2007-2013 under grant agreement 288199. Fuding Agency: European Community's Seventh Framework. Participants: Cassidian; CERTH; Clarity Dublin City University; IBM; INRIA; LULEA University; Link Care Services SA; Phillips; University of Bordeaux; University Hospital in Nice; VISTEK ISRA VISION. 01/11/2011 - 01/11/2015. Total Budget: 7M€. PI University of Bordeaux: Jenny Benois Pineau. Budget University of Bordeaux: 327.717€

C.4. Contracts, technological or transfer merits

Total funding as researcher: 975k€. Total Funding as Principal Investigator: 234k€. Selected contracts:
1.- "Técnicas de aprendizaje profundo para la mejora de la detección automática de fugas de gas a partir de imágenes infrarrojas" and "Desarrollo de modelos radiométricos y modelos de dispersión

para cuantificación de gases contaminantes". Funding Company: Sensia Solutions S.L. 1/11/2021–30/9/2023. PIs: Dr. F. Díaz-de-María and Dr. **Iván González Díaz.** Total Budget: 65.000€.

2. "Cylindrical or edge landmark detection for an automated road maintenance and maintenance system". Funding Company: ALVAC S.A. 1/10/2018 –31/03/2020. PIs: Dr. F. Díaz-de-María and Dr. **Iván González Díaz.** Budget: 90.000€.

3. "Automatic inspection by artificial vision of the airport pavement from images captured by a drone". Funding Company: CANARD DRONES S.L. 20/07/2018-20/07/2019. PIs: Dr. F. Díaz-de-María and Dr. **Iván González Díaz**. Budget: 53.669,12 €.

4. "Technical collaboration, testing and validation of optical components for SQS System". Funding Company: ZOITECHLAB S.L.. 01/02/2018-30/04/2018. PIs: Dr. F. Díaz-de-María and Dr. **Iván González Díaz**. Budget: 25.500 €.

5. Proyecto CENIT: "Advanced Systems Research Project for a More Eco-efficient Airplane (PROSAVE)". Funding Agency: Center for Industrial Technological Development (CDTI). Subproject: "Development of Artificial Vision Technologies for In-Flight Refueling Operations". 01/2010 – 12/2011. Funding Agency: EADS Construcciones Aeronáuticas S.A. PI subproject UC3M: Dr. F. Díaz-de-María. Budget subproject UC3M: 145.700,00 €.

Other transfer merits

Author of two software subject to royalties: Azor software, licensed for use and exploitation by Laboratorio Hipermedia SL; and renal pathologies software, by the company Transmural Biotech SL.

C.5. Awards and Grants

1. Official Competitive PhD scholarship "Personal Investigador de Apoyo" (equivalent to National FPU scholarship), funded by Madrid Regional Government.
2. First position in category Seborrheic Keratosis and 2nd global position in the International Challenge "ISIC 2017: Skin Lesion Analysis Towards Melanoma Detection".
3. Article chosen as cover of journal IEEE Journal of Biomedical and Health Informatics, March 2019.
4. Supervision of Bachelor Thesis in 1st and 2nd place in "Premios Liberalización de las Telecomunicaciones 2016 Mención Sonido e Imagen", awarded by the Official College of Engineers in Telecommunications.
5. Visiting Post-Doctoral Fellowship by the Scientific Council of LABRI, University of Bordeaux.

C.6 Invited Lectures

3 invited lectures at: 1) Czech Institute of Informatics, Robotics and Cybernetics (Prague). 1/07/2019, Invited by Prof. Vladimir Marik; 2) ISBI conference 2016 (Workshop on melanoma diagnosis). 4/2017. Invited by the organizers of the workshop (ISIC association), and 3) Honda Research Europe, 9/3/2024 invited by Dra. Anna Bellardinelli.

C.7 International Stays and Collaborations

1. PhD stay at Centre for Digital Video Processing, Dublin City University (07/2007 - 10/2007).
2. Postdoctoral Fellow at Laboratoire Bordelais de Recherche en Informatique (LABRI) of University of Burdeos (01/2013 - 09/2013)
3. Postdoctoral Stay at Laboratoire Bordelais de Recherche en Informatique (LABRI) of University of Burdeos (06/2017 - 08/2017)

International collaborations: Jenny Benois-Pineau (LABRI, University of Bordeaux), Aymar Rugy (Institut de Neurosciences Cognitives et Intégratives d'Aquitaine), Edward J. Delp (Purdue University), Iris Van Rooij (Donders Institute of Brain Cognition and Behaviour), Vladimir Marik (Czech Institute of Informatics, Robotics and Cybernetics), Andrés Hidalgo (Yale University).

C.8 Participation in Evaluation Panels, Reviewer in scientific journals and conferences

1. Member of the Evaluation Panel "Electrical and Electronic Engineering" for the FCT Projects in all scientific domains of Republic of Portugal (2020 and 2021).
2. Evaluator for proposals in calls of the Spanish National Research Agency (2022).
3. Reviewer: Regular reviewer in many premier academic journals, such as Pattern Recognition, IEEE Trans. Video Technology, IEEE Trans. on Intelligent Transportation Systems, IEEE Trans. on Multimedia, IEEE Trans. on Medical Image, Neuroimaging and others. Reviewer in several international conferences including MICCAI, CVPR, EUSIPCO, ICASSP, ICIP, IROS.