

CURRICULUM VITAE

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1 Biographical Note

A physicist by education, I received my PhD in Computer Science from the University of Liverpool, UK in 2003. From 2002 to 2007 I worked as a Research Fellow at the top ranked Universities of Liverpool and Southampton, UK. Since 2007 I work at the Universitat Autònoma de Barcelona, Spain, first as a “Beatriu de Pinós” fellow, then as a “Ramon y Cajal” senior fellow, and since March 2018 as contracted professor.

I develop my research at the Computer Vision Centre, where I **lead the Vision and Language research group**. I am **associate director** of the Centre since 2014.

My main research interests are computer vision and machine learning, and in particular robust reading systems, document image analysis, human-document interaction, and human perception modelling. I have produced >100 peer reviewed publications, including 22 in indexed journals and 8 book chapters that have received more than 2600 citations¹.

In 2013 I received the **IAPR/ICDAR Young Investigator Award** for “*innovative research in human perception-based document analysis*” as well as “*outstanding service to the ICDAR community in a variety of roles*”. This recognition is awarded by the International Association of Pattern Recognition, after an international nomination and evaluation process to one individual every two years.

In 2016, I received a **Google Research Award**, in the line of Machine Perception, for pursuing research in the line of modelling the interplay between visual and textual information in images.

I have been the **principal investigator** of various research projects, including a continuous stride of national research projects since I joined the Univ. Autònoma de Barcelona in Spain.

My research activity is **accredited by AQU**, the Catalan Agency for the Quality of the University System at the maximum level (“*Acreditació de Recerca*” U1445/11534680-113, “*Acreditació de Recerca Avançada*”: CT5JVYP7J) while I have also been positively evaluated by the **I3 program** in Spain.

I count with extensive **technology transfer experience**. In 2007 I set up with fellow-researchers the **spin-off company TruColour Ltd, UK**, specializing in perception-based colour calibration solutions. In 2019 I set up with colleagues the **spin-off company AllRead², Spain**, backed by the Mobile World Capital, specializing in the recognition of structured text in the wild. I have secured numerous **research** and **technology transfer contracts**. Technologies I have transferred are used daily in sectors such as banking (administrative documents classification for CaixaBank: thousands of images processed automatically per day) and utilities (automatic reading of consumption from gas meters for Naturgy: >10k images analysed per week, >2M images over the past two years).

A key driver in my professional activity is ensuring that research output creates real-life impact. In this line, I **conceived and led the creation of the “Library Living Lab” (L3)³**, converting a public library in Sant Cugat del Vallés, Barcelona, into an open, participatory innovation space. The project, aligned with European and regional innovation policies, is a collaboration between the public administration, research institutions, industry partners and citizens’ associations. L3 is an authentic implementation of the **quadruple helix innovation model** and a framework for social innovation in a real-world context. Under my leadership L3 became a member of the **European Network of Living Labs** in 2015 and was **nominated for the city awards** of Sant Cugat del Vallés in 2016.

¹ Google Scholar: <http://scholar.google.com/citations?user=xASEtrUAAAAJ&hl=en>

² <https://www.allread.ai/>

³ <http://librarylivinglab.cvc.uab.cat/>

I am the **chair** of the Technical Committee 11 (Reading Systems) of the International Association of Pattern Recognition (IAPR). TC11 coordinates the activities of the **>1,200 members strong** international research community in this area.

I am also a member of the **IAPR Education Committee**, the IEEE, while I have served in the IAPR Industry Liaison Committee and I have been a founding member and a member of the executive committee of the UK Chapter of the SPIE.

In 2018 I was invited by the Secretary of Telecommunications, Cybersecurity and Digital Society of the Generalitat de Catalunya to participate in a **high-level work group** to define the **Catalan Strategy on Artificial Intelligence**, under the name "Catalonia.AI"⁴.

I have served the international research community in several roles. I have been involved in the organisation of the main international events in my research field in various capacities. I serve on the **editorial board** of IPSJ Transactions on Computer Vision and Applications. In 2015 and 2019 I edited special issues on Robust Reading of the Int. Journal on Document Analysis Recognition (Springer) and of Pattern Recognition (Elsevier). I am an evaluator of research projects of various calls.

I have launched and run biannually since 2011 the **Robust Reading Competition** series⁵, that has been established as the **de-facto international benchmark** in my research domain, serving more than **12,000 registered researchers** from 128 countries and having received and evaluated more than **47,000 results submissions** to date (at the rate of 30 per day). The Robust Reading Competition has built bridges between the document image analysis area and the wider computer vision research field and has created significant impact in the international research community.

I have 20 years' worth of **teaching experience** at different undergraduate and postgraduate levels. My teaching activity is **accredited by AQU** ("*Professor Lector*" U1443/8155058-76). Apart from day-to-day teaching activities, I have led the organization of the Winter School on Eye-Tracking Methodologies (2007), I actively participated in the launch of the **Doctoral Consortium** of the Int. Conf. on Document Analysis and Recognition in 2011 and the **IAPR TC10/11 Summer School** series in 2016 and I am overlooking their continuous organization as the chair of IAPR TC11.

I have developed a considerable part of my career abroad through numerous contracts and research stays in foreign institutions. My experience abroad includes contracts in venues of high-esteem, such as the School of Electronics and Computer Science of the Univ. of Southampton, UK, a **Marie Curie visiting researcher** stay at ITESOFT, France and numerous other research stays.

2 Academic Degrees

Title	University	Date
PhD – Computer Science	Department of Computer Science, Faculty of Science The University of Liverpool (UK)	Jan. 2003
BSc – Physics	Department of Physics, Faculty of Sciences Aristotle University of Thessaloniki (Greece)	Sept. 1998

⁴ <https://catalonia.ai/>

⁵ <http://rrc.cvc.uab.es/>

3 Career History

Post	Institution	Period	
Profesor Agregado	Universitat Autònoma de Barcelona, Spain	16/4/2018	present
Associate Director	Computer Vision Centre	1/4/2014	present
Interim professor	Universitat Autònoma de Barcelona, Spain	1/10/2016	15/4/2018
<i>“Ramon y Cajal”</i> Research Fellow (*)	Computer Vision Centre / Universitat Autònoma de Barcelona, Spain	1/12/2009	30/9/2016
Contracted Researcher	Computer Vision Centre, Spain	1/9/2009	30/11/2009
<i>“Beatriu de Pinós”</i> Research Fellow	Computer Vision Centre, Universitat Autònoma de Barcelona, Spain	7/9/2007	31/8/2009
Director	TruColour, UK	1/2/2007	4/11/2018
Research Fellow	School of Electronics and Computer Science, University of Southampton, UK	1/4/2005	6/9/2007
Research Fellow	School of Psychology (Cognitive Science), University of Liverpool, UK	1/10/2004	31/3/2005
Research Associate	Department of Computer Science, University of Liverpool, UK	1/2/2002	30/9/2004
Student Demonstrator	Connect, University of Liverpool, UK	21/9/2000	8/12/2000
Student Demonstrator	Connect, University of Liverpool, UK	9/9/1999	17/12/1999
Research Assistant	Department of Physics, Aristotle University of Thessaloniki, Greece	1997	1998

(*) Including a secondment as a **Marie Curie Visiting Fellow** at the company ITESOFT, France, between 1/4/2012 and 31/5/2012

4 Accreditations

Accreditation	Agency	Date
Acreditació de Recerca Avançada (CT5JVYP7J)	Agència per a la Qualitat del Sistema Universitari de Catalunya	2018
Certificación Programa I3	Ministerio de Ciencia, Innovación y Universidades	2013
Acreditació de Recerca (U1445/11534680-113)	Agència per a la Qualitat del Sistema Universitari de Catalunya	2011
Professor Lector (U1443/8155058-76)	Agència per a la Qualitat del Sistema Universitari de Catalunya	2008

5 Languages

Language	Speaking Proficiency	Reading Proficiency	Writing Proficiency
Greek	Mother Tongue	Mother Tongue	Mother Tongue
English	Fluent	Fluent	Fluent
Spanish	Fluent	Fluent	Fluent
Catalan	Basic	Very Good	Basic

6 Selected Research Projects

Project Title	Funding Entity	Principal Investigator	Funding	Period
READS –Reading the Scene: Integrating reading systems in holistic scene interpretation models <i>(TIN2017-89779-P)</i>	Ministerio de Economía, Industria y Competitividad	D. Karatzas, E. Valveny	€ 81,554	2018-20
Semantic search of images and text in digital newspaper archives	Fundación BBVA	M. Rossinyol	€ 74,526	2017-19
Reading in the Wild: Exploiting Text-User-Scene mutual context for reading and scene understanding <i>(TIN2014-52072-P)</i>	Ministerio de Economía, Industria y Competitividad	D. Karatzas, A. Bagdanov	€ 109,021	2015 - 17
“Text and the City” – Human Centred Scene Text Understanding <i>(TIN2011-24631)</i>	Ministerio de Ciencia e Innovación	D. Karatzas	€ 78,045	2012 - 14
Accurate color measurements from hand-held devices <i>(TIN2013-50550-EXP)</i>	Ministerio de Ciencia e Innovación	J. Van de Weijer	€ 36,300	2014 - 15
“HuPerText” – Managing Textual Content in Digital Images based on Human Perception Inspired Technologies <i>(TIN 2008-04998)</i>	Ministerio de Ciencia e Innovación	D. Karatzas	€ 49,610	2009 - 11
ADAO: Administrative Document Automate Optimization <i>(FP7-PEOPLE-IAPP-2008 230653)</i>	European Union (FP7)	V. Poulain d’Andecy	€ 363,182	2009 - 13
ScanPLAN: Un nuevo módulo funcional para reconocimiento de planos arquitecturales <i>(Eureka EI-4462)</i>	Ministerio de Ciencia e Innovación, Spain	J. Lladós	€ 605,175	2008 - 11
DocuRead: Componentes avanzadas de reconocimiento de contenidos documentales heterogéneos. <i>(Avanza I+D, TSI-020400-2008-188)</i>	Ministerio de Industria Turismo y Comercio, Spain	J. Lladós	€ 322,640	2008 - 10
MIPRCV – Multimodal Interaction in Pattern Recognition and Computer Vision <i>(CONSOLIDER INGENIO 2010 CSD 2007-00018)</i>	Ministerio de Educación y Ciencia, Spain	E. Vidal	€ 532,802	2007 - 11
Adaptive Energy Aware Sensor Networks <i>(DIF DTC AEASN:2006)</i>	Data Information Fusion Defense Technology Centre, UK	N. White, N. Jennings, A. Rogers	£ 508,947	2006 - 07
Optimal Signal Extraction from Intelligent Sensors <i>(DIF DTC 8.5:2004)</i>	Data Information Fusion Defense Technology Centre, UK	N. White, C. Harris	£ 274,399	2005 - 06
MEMORIAL: A Digital Workbench for Preservation of Personal Records in Virtual Memorials <i>(IST-2001-33441)</i>	European Union (FP5)	A. Geschke	€1,500,000	2002 - 04

7 Selected Technology Transfer / Contracted Research Projects

Project Title	Funding Entity	Principal Investigator	Funding	Period
Improving multi-modal embedding for vision and language tasks	Naver Labs Europe	D. Karatzas	€ 10,000	2019 - 20

Unconstrained meter reader & Integration CNN	Naturgy	D. Karatzas	€ 20,204	2019
Semantic segmentation-based approach for text detection and recognition in natural images	Naver Labs Europe	D. Karatzas	€ 10,000	2018 - 19
Mobile-based reading system for Gas meters	Naturgy	D. Karatzas, E. Valveny	€ 64,445	2017 - 18
Research and development on new computer vision systems for social media images	Eurecat, Spain	D. Karatzas	€ 42,294	2016
Development of reading technologies for Gas meters in-situ	Gas Natural Fenosa	D. Karatzas, E. Valveny	€ 57,354	2016 - 17
Yo Leo Gas	Gas Natural Fenosa	D. Karatzas, E. Valveny	€ 72,978	2014 - 15
Documents On Demand – Next Generation Interfaces	ITESOFT, France	D. Karatzas	€ 142,000	2014 - 15
OCR for Gas Meters	Gas Natural Fenosa	D. Karatzas, E. Valveny	€ 211,824	2013 - 14
Perceptual Colour Calibration	AkzoNobel, UK	S. Wuerger, D. Karatzas	£ 66,104	2011 - 12
Digital Mail Room	CaixaBank, Spain	D. Karatzas, J. Lladós	€ 84,514	2010 - 11
Display Calibration based on Human Perceptual Judgements (NW07/0041)	North-West Development Agency, UK	D. Karatzas, S. Wuerger	£ 75,000	2007 - 09

8 Scholarships and Grants

8.1 Scholarships

Scholarship	Funding	Funding Entity	Period
“Ramon y Cajal” Research Fellowship (RYC-2009-05031)	€ 251,850	Ministerio de Ciencia e Innovación	2009-14
“Beatriu de Pinós” Research Fellowship (2006 BP-B1 00046)	€ 63,800	Agència de Gestió d’Ajuts Universitaris I de Recerca (AGAUR)	2007-09

8.2 Other Grants

Grant	Funding	Funding Entity	Period
Short Knowledge Transfer Partnership (1000316)	£ 14,820	Technology Strategy Board, UK	2010
Organization of the “AERFAI Winter School on Eye-Tracking Methodology” (2009 ARCS1 00164)	€ 6,000	Agència de Gestió d’Ajuts Universitaris I de Recerca (AGAUR)	2009

9 Awards

IAPR/ICDAR Young Investigator Award (2013)

For *“innovative research in human perception-based document analysis”* as well as *“outstanding service to the ICDAR community in a variety of roles.”*

The IAPR / ICDAR Young Investigator Award is given by the International Association of Pattern Recognition, following an international nomination and evaluation process to one individual every two years.

Google Research Award (2016)

Received an unrestricted gift award of \$37,245 USD, jointly with Dr A.B. Bagdanov (University of Florence), in the line of *Machine Perception*, for pursuing research in the line of modelling the interplay between visual and textual information in images.

The Google Faculty Research Awards Program “aims to recognize and support world-class, permanent faculty pursuing cutting-edge research in areas of mutual interest”.

10 Invited Talks / Lectures

Title	Event / Location	Date
Modelling the interplay between visual and textual information	Naver Labs Europe, Grenoble, France	Apr 2019
Vision and Language	3 rd Int. Workshop on Robust Reading, Perth, Australia	Dec 2018
Vision and Language	Artificial Intelligence International Conference, Barcelona, Spain	Nov 2018
Heritage Interpretation and New Technologies	Interdisciplinary Workshop on Heritage Interpretation in the Iberian Peninsula, Barcelona, Spain	Sep 2018
Scene Text Understanding	2 nd IAPR TC10/TC11 Summer School on Document Analysis and Recognition, La Rochelle, France	Jul 2018
Computer Vision as a driver for innovation	ESADE Business School, Barcelona, Spain	May 2018
Imatges de Futur	Fiesta de la Ciència	Jun 2016
Library Living Lab – An open, participatory, innovation space in a public library	Fiesta de la Ciència	Jun 2016
Teaching machines to read	EYE Catalunya, Barcelona, Spain	Jul 2015
The Library Living Lab - Creating a Quadruple Helix Open Innovation Space	‘Smart cities’: espais, empresa, ciutadania i territori, Barcelona, Spain	Jul 2015
Robust Reading	3 rd Int. Document Image Processing Summer School, Greece	Jun 2015
Next Generation Interfaces - Linking the Digital and the Physical	ITESOFT Innovation Days, Aimargues, France	May 2014
Human Perception Inspired Computer Vision – Applications to Text Detection in Real Scenes	Osaka Prefecture University, Japan	Nov 2012
Computer Vision	Jornadas Tècniques de Formació Professional, Institut Anna Gironella de Mundet	Apr 2012
Introduction to Eye-Tracking	Winter School on Eye Tracking Methodologies, Barcelona, Spain	Nov 2009
Finding Text in Complex Colour Images	University of Salerno, Italy	Mar 2009
The Use of Colour in Document Image Analysis	University of Salford, UK	2006
Text Extraction from Web Images – Making the Web More Accessible	University of Birmingham, UK	2005

11 Participation in International Committees

Role	Committee	Professional Body	Period
Member	Work group on the Catalan Strategy for Artificial Intelligence	Generalitat de Catalunya	2018 – present
Chair	Technical Committee 11 – Reading Systems	International Association of Pattern Recognition (IAPR)	2017 – present
Member	Education Committee	International Association of Pattern Recognition (IAPR)	2016 – present
Member	Institute of Document Analysis and Knowledge Science (IDAKS)	Osaka Prefecture University, Japan	2011 – present
Member	Industrial Liaison Committee	International Association of Pattern Recognition (IAPR)	2010 – 2015
Vice Chair	Technical Committee 11 – Reading Systems	International Association of Pattern Recognition (IAPR)	2012 – 2016
Dataset Curator	Technical Committee 11 – Reading Systems	International Association of Pattern Recognition (IAPR)	2009 – 2012
Executive Committee Member	SPIE UK Chapter	The International Society for Optical Engineering (SPIE)	2005 – 2006

12 Organization of Scientific activities

Role	Event	Date
Program Chair	14 th IAPR Int. W. on Document Analysis Systems (DAS)	2020
Competitions Chair	17 th Int. Conf. on Frontiers in Handwriting Recognition (ICFHR)	2020
General Chair	2 nd Future ICDAR workshop	2019
General Chair	2 nd Int. Workshop on Human-Document Interaction (HDI)	2019
General Chair	3 rd Int. Workshop on Robust Reading (IWRR)	2018
Contests Chair	24 th IAPR International Conference on Pattern Recognition (ICPR)	2018
General Chair	1 st Int. Workshop on Human-Document Interaction (HDI)	2017
General Chair	7 th IAPR Int. Workshop on Camera Based Document Image Analysis (CBDAR)	2017
Program Chair	14 th IAPR Int. Conf. on Document Analysis and Recognition (ICDAR)	2017
General Chair	2 nd Int. Workshop on Robust Reading (IWRR)	2016
Tutorials Chair	12 th IAPR Int. Workshop on Document Analysis Systems (DAS)	2016
General Chair	6 th IAPR Int. Workshop on Camera Based Document Image Analysis (CBDAR)	2015
General Chair	1 st Int. Workshop on Robust Reading (IWRR)	2014
Publicity Chair	2 nd IAPR Asian Conf. on Pattern Recognition (ACPR)	2013
General Chair	AERFAI Winter School on Eye-Tracking Methodologies	2011
Publications Chair	10 th IAPR Int. Conf. on Document Analysis and Recognition (ICDAR)	2009

13 Theses Supervision

13.1 Supervision of PhD Theses

Thesis Title	Student Name	Defence Date
Multi-modal fine-grained object classification	Andres Mafla	<i>Expected: May 2022</i>
Computer vision models for image interpretation	Ali Furkan Biten	<i>Expected: September 2021</i>
Exploiting the Interplay between Visual and Textual Image Content for Scene Interpretation	Raúl Álamo Gómez Bruballa	<i>Expected: February 2020</i>
Advanced reading systems for scene text understanding	Anguelos Nicolaou	<i>Expected: December 2019</i>
Robust Reading Systems for Scene Interpretation	Dena Bazazian	29/11/2018 (Cum Laude)
Exploiting Similarity Hierarchies for Multi-script Scene Text Understanding	Lluís Gomez i Bigorda	8/4/2016 (Cum Laude)
Focused Structural Document Image Retrieval in Digital Mailroom Applications	Hongxing Gao	16/1/2015 (Cum Laude)
Segmentation and indexation of complex objects in comic book images	Christophe Rigaud	11/12/2014 (Cum Laude)
A computational model of eye guidance, searching for text in real scene images	Antonio Clavelli	13/10/2014 (Cum Laude)

13.2 Supervision of MSc Theses

Thesis Title	Student Name	Defence Date
Interfaces for visualisation and interaction of multimodal data embeddings	Jacopo Bianchini	<i>Expected: Dec. 2019</i>
Gamification techniques for scene text collection	Gianmarco Biscini	<i>Expected: Dec. 2019</i>
Using Mixture Density Networks to Embed Images in Text Topic Spaces	Sergi Garcia Bordils	18/9/2019
Synthetic Visual Data for In-Context Scene Text Understanding	Elias Kasma Piovani	12/9/2019
Creation of a supermarket grocery dataset for Computer Vision	Diego E. Apéstegui Quesada	12/9/2019
Application of image captioning DNNs to archival images	Ali Furkan Biten	9/3/2018
A Deep Neural Network architecture for joint text localisation and recognition	Andres Patricio Mafla Delgado	9/3/2018
LetterGO – A game for crowdsourcing large-scale scene-text sample acquisition	David Garcia	15/3/2017
Efficient discovery of text in the wild using Fully Convolutional Networks	Raúl Álamo Gómez Bruballa	16/9/2017
Learning by observing: the use of eye-tracking as a means to automate information extraction processes in digital mailroom pipelines	Helena Muñoz Escudero	22/2/2016
Perceptual Organization for Text Extraction in Natural Scenes	Lluís Gomez i Bigorda	25/9/2012
Colour logo recognition	Farshad Nourbakhsh	09/2009

14 Courses Taught

Course	Programme	Institution	Academic Year
Machine Learning techniques for CV	MSc Computer Vision (<i>in English</i>)	UAB, UOC, UPF, UPC	2017-18 2018-19
Pattern Análisis and Recognition	MSc Software Engineering (<i>in English</i>)	Universitat Autònoma de Barcelona	2014-15, 2015-16 2016-17, 2017-18
Tecniques de digitalitzacio de documents historics	Postgrau de gestió i tractament digital de documentacio historica	Universitat Autònoma de Barcelona	2013-14
Data Science	BSc Gestion de Ciudades Ingelidentes y Sostenibles	Universitat Autònoma de Barcelona	2018-19 2019-20
Urban Open Innovation	BSc Gestion de Ciudades Ingelidentes y Sostenibles	Universitat Autònoma de Barcelona	2018-19
Artificial Intelligence	BSc Enginyeria Informàtica	Universitat Autònoma de Barcelona	2016-17, 2017-18 2018-19, 2019-20
Prácticas externas	BSc Enginyeria Informàtica	Universitat Autònoma de Barcelona	2016-17, 2017-18 2018-19
Computer Vision	BSc Enginyeria Informàtica	Universitat Autònoma de Barcelona	2013-14
Comparative Programming Languages	BSc Computer Science	University of Liverpool, UK	2003-04 2004-05
Pattern Recognition and Image Analysis	BSc Computer Science	University of Liverpool, UK	2001-02, 2002-03 2003-04
Unix OS	Software Technology	University of Liverpool	1999-2000 2000-01
Java Programming	Software Technology	University of Liverpool	1999-2000 2000-01
C Programming	Software Technology	University of Liverpool	1999-2000 2000-01
C++ Programming	Software Technology	University of Liverpool	1999-2000 2000-01
Internet Programming	Software Technology	University of Liverpool	1999-2000 2000-01
Oracle and SQL	Software Technology	University of Liverpool	1999-2000 2000-01

15 Publications

15.1 Research Output Indicators

H-index (Google Scholar):	26
Index i10	51
Total number of citations	2683
Number of Publications	124
Indexed Journal articles	22
Book Chapters	8
Special Issues Edited	2
Peer-reviewed Conference Publications	83
Other Publications	11

15.2 Indexed Journals

1. D. Bazazian, R. Gómez, A. Nicolaou, L. Gómez, **D. Karatzas**, A.D. Bagdanov, "FAST: Facilitated and Accurate Scene Text Proposals through FCN Guided Pruning", Pattern Recognition Letters, Elsevier, DOI: 10.1016/j.patrec.2017.08.030, Sept 2017
2. L. Gomez, **D. Karatzas**, "TextProposals: a Text-specific Selective Search Algorithm for Word Spotting in the Wild", Pattern Recognition, Elsevier, Vol. 70, pp. 60-74, 2017
3. L. Gomez, A. Nicolaou, **D. Karatzas**, "Improving patch-based scene text script identification with ensembles of conjoined networks" Pattern Recognition, Volume 67, July 2017, Pages 85-96
4. L. Gomez, **D. Karatzas**, "A fast hierarchical method for multi-script and arbitrary oriented scene text extraction", Int. J. on Document Analysis and Recognition, Springer, 19(4), 335–349, 2016
5. C. Rigaud, C. Guérin, **D. Karatzas**, J.-C. Burie, J.-M. Ogier, "Knowledge-driven understanding of images in comic books", Int. J. on Document Analysis and Recognition, Springer, DOI: 10.1007/s10032-015-0243-1, April 2015
6. M. Rusiñol, V. Frinken, **D. Karatzas**, A. Bagdanov, and J. Lladós. "Multimodal page classification in administrative document image streams", Int. J. on Document Analysis and Recognition, Springer, 17(4), 331–341, 2014
7. C.A. Parraga, J. Roca, **D. Karatzas**, and S. Wuerger, "Limitations of visual gamma corrections in LCD displays", Displays, Elsevier, 35(5), 227–239, 2014
8. T. Chauhan, E. Perales, K. Xiao, E. Hird, **D. Karatzas** and S. Wuerger, "The achromatic locus: Effect of navigation direction in color space", Journal of Vision, Vol. 14(1), doi:10.1167/14.1.25, January 2014
9. A. Clavelli, **D. Karatzas**, J. Lladós, M. Ferraro, G. Boccignone, "Modelling task-dependent eye guidance to objects in pictures", Cognitive Computation, 6(3), 558–584, 2014
10. K. Xiao, C. Fu, D. Mylonas, **D. Karatzas** and S. Wuerger, "Unique Hue Data for Colour Appearance Models. Part II: Chromatic Adaptation Transform", Color Research & Application, Wiley, DOI: 10.1002/col.20725, Vol. 38(1), pp. 22-29, February 2013
11. S. Wuerger, K. Xiao, D. Mylonas, Q. Huang, **D. Karatzas** and G. Paramei, "Blue–green color categorization in Mandarin–English speakers", Journal of the Optical Society of America - A, Vol. 29(2), pp. A102-A107, February 2012
12. M. Ferrer, **D. Karatzas**, E. Valveny, I. Bardaji, H. Bunke, "A Generic Framework for Median Graph Computation based on a Recursive Embedding Approach" Computer Vision and Image Understanding, Elsevier, Vol. 115 (7), pp. 919-928, 2011
13. K. Xiao, S. Wuerger, C. Fu and **D. Karatzas**, "Unique Hue Data for Colour Appearance Models. Part I: Loci of Unique Hues and Hue Uniformity", Color Research & Application, Wiley, Vol. 36 (3), 2011
14. C. Fu, K. Xiao, **D. Karatzas** and S. Wuerger, "Investigation of Unique Hue Setting Changes with Ageing", Chinese Optics Letters, Vol. 9, Num. 5, pp. 053301-1-5, May 2011
15. K. Xiao, C. Fu, **D. Karatzas** and S. Wuerger, "Visual Gamma Correction for LCD Displays", Displays, Elsevier, Vol. 32 (1), pp. 17-23, DOI: 10.1016/j.displa.2010.09.003, 2011
16. S. Wuerger, K. Xiao, C. Fu and **D. Karatzas**, "Colour-opponent mechanisms are not affected by age-related chromatic sensitivity changes", Ophthalmic and Physiological Optics, Wiley-Blackwell, Vol. 30, Num. 5, pp 635-659, 2010
17. A. Fornes, J. Lladós, G. Sanchez and **D. Karatzas**, "Rotation Invariant Hand-drawn Symbol Recognition based on a Dynamic Time Warping Model", International Journal on Document Analysis and Recognition, Springer, Vol. 13 (3), pp. 229-241, 2010
18. M. Delalandre, E. Valveny, T. Pridmore and **D. Karatzas**, "Generation of Synthetic Documents for Performance Evaluation of Symbol Recognition & Spotting Systems",

International Journal on Document Analysis and Recognition, Springer, Vol. 13 (3), pp. 187-207, 2010

19. J. Lladós, **D. Karatzas**, J. Mas and G. Sanchez, "A Generic Architecture for the Conversion of Document Collections into Semantically Annotated Digital Archives", *Journal of Universal Computer Science*, Vol. 14, Num. 18, pp. 2912-2935, 2008
20. **D. Karatzas** and A. Antonacopoulos, "Colour Text Segmentation in Web Images Based on Human Perception", *Image and Vision Computing*, Elsevier, Vol. 25 (5), pp. 564-577, 2007
21. **D. Karatzas**, A. Chorti, N.M. White and C.J. Harris, "Teaching Old Sensors New Tricks: Archetypes of Intelligence", *IEEE Sensors Journal*, Vol. 7 (5), IEEE Press, pp. 868-881, 2007
22. A. Chorti, **D. Karatzas**, N.M.White and C.J.Harris, "Use of the Extended Kalman Filter for State Dependent Drift Estimation in Weakly Nonlinear Sensors", *Sensor Letters*, Vol. 4, No. 4, American Scientific Publishers, December 2006, pp. 377-379

15.3 Book Chapters

1. R. Gomez, L. Gomez, J. Gibert, **D. Karatzas**, "Self-Supervised Learning from Web Data for Multimodal Retrieval", in the book "Multimodal Scene Understanding: Algorithms, Applications and Deep Learning", M. Yang, B. Rosenhahn, V. Murino (Eds.), Elsevier, to appear in May 2019
2. L. Gómez, A. Nicolaou, M. Rusiñol, **D. Karatzas**, "12 years of ICDAR Robust Reading Competitions: The evolution of reading systems for unconstrained text understanding", in the book: "Visual Text Interpretation - Algorithms and Applications in Scene Understanding and Document Analysis", K. Alahari, C.V. Jawahar (Eds.), Springer, Series on Advances in Computer Vision and Pattern Recognition, to appear in April 2019
3. L. Gómez, D. Bazazian, **D. Karatzas**, "Historical review of scene text detection research", in the book: "Visual Text Interpretation - Algorithms and Applications in Scene Understanding and Document Analysis", K. Alahari, C.V. Jawahar (Eds.), Springer, Series on Advances in Computer Vision and Pattern Recognition, to appear in April 2019
4. J. Almazán, L. Gómez, S. Ghosh, E. Valveny, **D. Karatzas**, "WATTS: A common representation of word images and strings using embedded attributes for text recognition and retrieval", in the book: "Visual Text Interpretation - Algorithms and Applications in Scene Understanding and Document Analysis", K. Alahari, C.V. Jawahar (Eds.), Springer, Series on Advances in Computer Vision and Pattern Recognition, to appear in April 2019
5. A. Kesidis and **D. Karatzas**, "Logo and Trademark Recognition", in the book: "Handbook of Document Image Processing and Recognition", D. Doermann and K. Tombre (Eds.), ISBN 978-0-85729-860-7, pp. 591-646, Springer, 2014
6. M. Ferrer, I. Bardají, E. Valveny, **D. Karatzas**, H. Bunke, "Median Graph Computation by Means of Graph Embedding into Vector Spaces", in the book: "Graph Embedding for Pattern Analysis", Yun Fu, Yunqian Ma (Eds.), DOI 10.1007/978-1-4614-4457-2 3, Springer, 2013, pp. 45-72, 2013
7. A. Antonacopoulos, **D. Karatzas**, "A Fuzzy Approach to Text Segmentation in Web Images Based on Human Colour Perception", in the book: "Web Document Analysis: Challenges and Opportunities", A. Antonacopoulos and J. Hu (Eds.), Series in Machine Perception and Artificial Intelligence, World Scientific Publishing Company, pp. 203-221, 2003
8. **D. Karatzas**, A. Antonacopoulos, "Visual Representation of Text in Web Documents and Its Interpretation", in the book: *Multidisciplinary Approaches to Visual Representations and Interpretations*, G.R. Malcolm (Ed.), Series: Studies in Multidisciplinarity, Vol.2, Elsevier, pp. 181-196, 2004

15.4 Peer Reviewed Conference Proceedings (selected, past 5 years)

1. A. Furkan Biten, R. Tito, A. Mafla, L. Gomez, M. Rusiñol, E. Valveny, C.V. Jawahar, **D. Karatzas**, "Scene Text Visual Question Answering", Proceedings of Int. Conf. on Computer Vision (ICCV), 2019
2. R. Gomez, A. Furkan Biten, L. Gomez, J. Gibert, **D. Karatzas**, M. Rusiñol, "Selective Style Transfer for Text", Proceedings 15th Int. Cong. On Document Analysis and Recognition, IEEE CPS, pp. 805 – 812, 2019
3. A. Furkan Biten, A. Mafla, L. Gomez, M. Rusiñol, M. Mathew, C.V. Jawahar, E. Valveny, **D. Karatzas**, "ICDAR 2019 Competition on Scene Text Visual Question Answering", Proceedings 15th Int. Cong. On Document Analysis and Recognition, IEEE CPS, pp. 1563 – 1570, 2019
4. N. Nayef, Y. Patel, M. Busta, P. Nath Chowdhury, **D. Karatzas**, W. Khlif, J. Matas, U. Pal, J.-C. Burie, C.L. Liu, J.M. Ogier, "ICDAR2019 Robust Reading Challenge on Multi-lingual Scene Text Detection and Recognition – RRC-MLT-2019", Proceedings 15th Int. Cong. On Document Analysis and Recognition, IEEE CPS, pp. 1582 – 1587, 2019
5. A. Furkan Biten, L. Gomez, M. Rusiñol, **D. Karatzas**. "Good News, Everyone! Context driven entity-aware captioning for news images." In 2019 IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2019
6. R. Gomez, L. Gomez, J. Gibert, **D. Karatzas**. "Learning to Learn from Web Data Through Deep Semantic Embeddings." In European Conference on Computer Vision, pp. 514-529. Springer, Cham, 2018.
7. R. Gomez, L. Gomez, J. Gibert, **D. Karatzas**. "Learning from# Barcelona Instagram data what Locals and Tourists post about its Neighbourhoods." In European Conference on Computer Vision, pp. 530-544. Springer, Cham, 2018.
8. L. Gómez, M. Rusiñol, **D. Karatzas**. "Cutting Sayre's Knot: Reading Scene Text without Segmentation. Application to Utility Meters." In 2018 13th IAPR International Workshop on Document Analysis Systems (DAS), pp. 97-102. IEEE, 2018.
9. **D. Karatzas**, L. Gómez, A. Nicolaou, M. Rusiñol. "The Robust Reading Competition Annotation and Evaluation Platform." In 2018 13th IAPR International Workshop on Document Analysis Systems (DAS), pp. 61-66. IEEE, 2018.
10. L. Gomez, A. Mafla, M. Rusiñol, **D. Karatzas**, "Single Shot Scene Text Retrieval", The European Conference on Computer Vision (ECCV), 2018, pp. 700-715
11. D. Bazazian, **D. Karatzas**, A.D. Bagdanov, "Word Spotting in Scene Images Based on Character Recognition", The IEEE Conference on Computer Vision and Pattern Recognition (CVPR) Workshops, 2018, pp. 1872-1874
12. R. Gomez, B. Shi, L. Gomez, L. Neumann, A. Veit, J. Matas, S. Belongie, **D. Karatzas**, "ICDAR2017 robust reading challenge on COCO-Text". In 2017 14th IAPR International Conference on Document Analysis and Recognition (ICDAR) (pp. 1435-1443). IEEE, November 2017
13. N. Nayef, F. Yin, I. Bizid, H. Choi, Y. Feng, **D. Karatzas**, Z. Luo, U. Pal, C. Rigaud, J. Chazalon, W. Khlif, "ICDAR2017 Robust Reading Challenge on Multi-Lingual Scene Text Detection and Script Identification-RRC-MLT". In Document Analysis and Recognition (ICDAR), 2017 14th IAPR International Conference on (Vol. 1, pp. 1454-1459). IEEE. November 2017
14. L. Gomez, M. Rusiñol and **D. Karatzas**, "LSDE: Levenshtein Space Deep Embedding for Query-by-string Word Spotting", In Proceedings of the 14th International Conference on Document Analysis and Recognition, pp. 499-504, IEEE CPS, 2017
15. L. Galteri, D. Bazazian, L. Seidenari, M. Bertini, A. Bagdanov, A. Nicolaou, **D. Karatzas**, A. Del Bimbo, "Reading Text in the Wild from Compressed Images", In Proceedings of ICCV 2017 Workshops, IEEE CPS, 2017

16. L. Gomez, Y. Patel, M. Rusiñol, C.V. Jawahar, **D. Karatzas**, "Self-supervised learning of visual features through embedding images into text topic spaces", In 2017 IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2017
17. **D. Karatzas**, V. Poulain d'Andecy, M. Rusiñol, "Human-Document Interaction – a new frontier for document image analysis", In 12th IAPR Workshop on Document Analysis Systems (pp. 369–374), 2016
18. L. Gomez, **D. Karatzas**, "A fine-grained approach to scene text script identification In Document Analysis Systems (DAS), 12th IAPR Workshop on, pp. 192-197. IEEE, 2016
19. Y. Patel, L. Gomez, M. Rusiñol, **D. Karatzas**, "Dynamic Lexicon Generation for Natural Scene Images", In 2nd International Workshop on Robust Reading at ECCV (pp. 395–410), 2016
20. A. Nicolaou, A.D. Bagdanov, L. Gómez, and **D. Karatzas**, "Visual Script and Language Identification". In Document Analysis Systems (DAS), 2016 12th IAPR Workshop on (pp. 393-398). IEEE, 2016
21. **D. Karatzas**, L. Gomez-Bigorda, A. Nicolaou, S. Ghosh, A. Bagdanov, M. Iwamura, J. Matas, L. Neumann, V. Ramaseshan Chandrasekhar, S. Lu, F. Shafait, S. Uchida and E. Valveny, "ICDAR 2015 Competition on Robust Reading", Proceedings of 13th IAPR International Conference on Document Analysis and Recognition (ICDAR'2015), IEEE, pp. 1156-1160, 2015
22. L. Gomez, **D. Karatzas**, "Object Proposals for Text Extraction in the Wild", Proceedings of 13th IAPR International Conference on Document Analysis and Recognition (ICDAR'2015), IEEE, pp. 206-210, 2015 (arXiv:1509.02317)
23. H. Gao, M. Rusiñol, **D. Karatzas**, J. Lladós, R. Jain and D. Doermann, "Novel Line Verification for Multiple Instance Focused Retrieval in Document Collections", Proceedings of 13th IAPR International Conference on Document Analysis and Recognition (ICDAR'2015), IEEE, pp. 481-485, 2015
24. A. Nicolaou, A.D. Bagdanov, M. Liwicki, **D. Karatzas**, "Sparse Radial Sampling LBP for Writer Identification", Proceedings of 13th IAPR International Conference on Document Analysis and Recognition (ICDAR'2015), IEEE, pp. 716-720, 2015 (arXiv:1504.06133)
25. L. Gomez and **D. Karatzas**, "MSER-based Real-Time Text Detection and Tracking", In 22nd IAPR International Conference on Pattern Recognition, IEEE, pp. 3110–3115, 2014
26. H. Gao, M. Rusiñol, **D. Karatzas** and J. Lladós, "Embedding Document Structure to Bag-of-Words through Pair-wise Stable Key-Regions", In 22nd International Conference on Pattern Recognition (ICPR), IEEE, pp. 2903-2908, 2014
27. L. Gomez and **D. Karatzas**, "Scene Text Recognition: No Country for Old Men?", In 1st International Workshop on Robust Reading, In Computer Vision-ACCV 2014 Workshops, Springer International Publishing, pp. 157-168,2014
28. **D. Karatzas**, S. Robles Mestre and Ll. Gómez, "An on-line platform for ground truthing and performance evaluation of text extraction systems", 10th IAPR Int. Workshop on Document Analysis Systems, Tours, France, 2014
29. V. Frinken, **D. Karatzas** and A. Fischer, "A Cache Language Model for Whole Document Handwriting Recognition", 10th IAPR Int. Workshop on Document Analysis Systems, Tours, France, 2014
30. H. Gao, M. Rusiñol, **D. Karatzas** and J. Lladós, "Fast structural matching for document image retrieval through spatial database", 21st International Conference on Document Recognition and Retrieval, DRR14 2014

16 Publicity

Titulo	Medio	Fecha
Entrevista - Library Living Lab	Valles Visio ("Ambit B30")	19 / 11 / 2018
Entrevista – proyecto ciudadano de escaneo 3D de los capiteles del claustre del monasterio de St Cugat	TV Sant Cugat	1 / 10 / 2018
Biblioteques: ja no només per anar a llegir	El Pais	27 / 7 / 2017
Els llibres no són sempre els reis de les biblioteques	Diari Ara	27 / 7 / 2017
La Diputación de Barcelona lanza 'BiblioLab', el nuevo modelo para las bibliotecas públicas	La Vanguardia	12 / 5 / 2017
Entrevista - El barri de Volpelleres	TV Sant Cugat	26 / 4 / 2017
Un Laboratori a la biblioteca	Som el que fem, TV3	13 / 1 / 2017
@Volpelleres, Premi Ciutat de Sant Cugat 2015?	TOT Sant Cugat	3 / 11 / 2015
Un laboratorio de libro	La Vanguardia	28 / 5 / 2015
Sant Cugat abrirá la primera biblioteca con tecnología innovadora de Catalunya	El Periodico	24 / 4 / 2015
Sant Cugat pone el 'smart city' al servicio de la innovación social	La Vanguardia	19 / 11 / 2014
Primer Library Living Lab	El Mundo	8 / 7 / 2014
Els veïns de Volpelleres aposten per la creació d'una biblioteca virtual i interactiva	Cugat Diari	13 / 7 / 2012
Tate Exhibition features 'colour' collaboration	Precinct	Summer 2009
Un projecte del CVC, exposat a la Galeria Tate de Liverpool	Parc de Recerca UAB	5 / 10 / 2009
La ciència del color aplicada a la tecnologia	Divulga	10 / 2009
Opening up a world of hidden documents	Research Intelligence	5 / 2004
Tackling the World Wide Web's image problem	Research Intelligence	6 / 2000