

Research Activity 2019



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0. Summary

RESEARCH PERSONNEL	
Postdoc Researchers	40
PhD students	53
COMPETITIVE PROJECTS	
New projects awarded in 2019	
• R+D Projects	8
In execution – awarded in previous years	
• R+D Projects	13
• Other grants	2
• Participation in external projects	3
HUMAN RESOURCES GRANTS	
New grants awarded in 2019	
• Predoc positions	3
In execution – awarded in previous years	
• Postdoc positions	7
• Predoc positions	11
• Other grants	2
PHD THESIS	15
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RESEARCH STAYS OUTGOING	13
RESEARCH STAYS INCOMING AND INTERNSHIPS	47
INVITED TALKS BY CVC PERSONNEL	
• In scientific conferences, courses and tutorials	25
• In other events	14
• In institutions	8
INVITED TALKS AT CVC	10
PUBLICATIONS	
• Books	14
• Book Chapters	5
• Journals with Impact Factor	45
• Journals	3
• International Conferences	61
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AWARDS	2
EDITORSHIPS	25
SERVICE TO THE COMMUNITY	8

1. Research Personnel

1.1 Composition

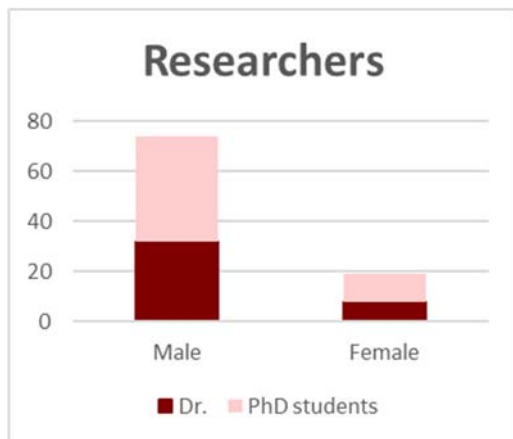
As of 31 December 2019, CVC personnel who perform research activities are composed by:

POST-DOC RESEARCHERS (40):

- **Permanent (21):** including 4 senior researchers contracted by CVC and also 16 university professors from UAB and UB.
- **Postdoc contracts (19):** including Ramón y Cajal, Marie Curie and Tecniosprings fellows, as well as those hired by the CVC and the UAB and UB universities.

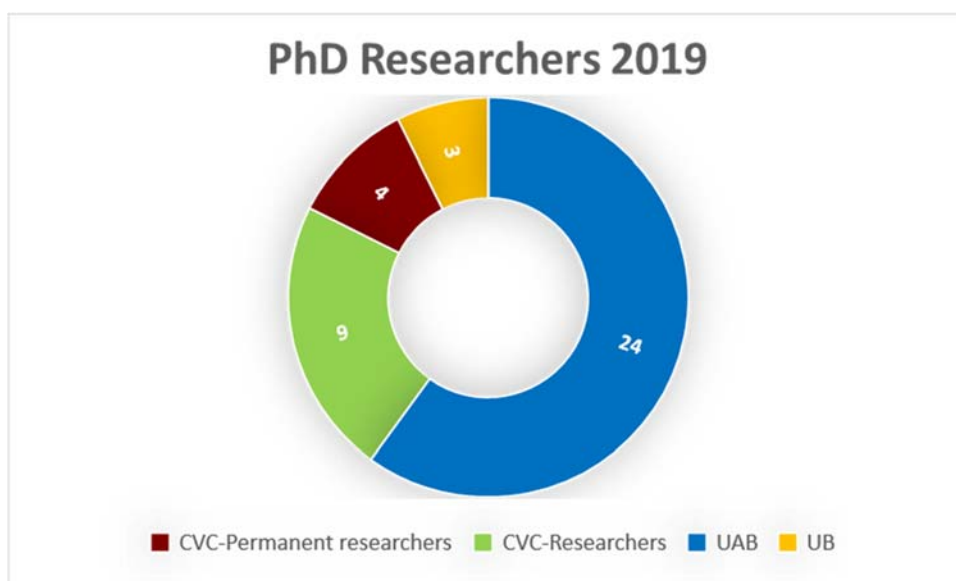
PHD. STUDENTS (53): It includes any PhD student with a scholarship (CVC, UAB, FPI, DI, FI or FPU) or a contract as an assistant at the UAB and UB.

RESEARCHER PROFILE:



Profile researcher:

- Associate professor
- 46 years-old
- h-index: 20



1.2 SGR Groups –

All researchers in CVC are members of a recognized research group (SGR), distinction given by the Generalitat de Catalunya:

TITLE: *Learning and Machine Perception (LAMP)*
REFERENCE: 2017 SGR 649
FUNDING ENTITY: AGAUR
DURATION: 01/01/2017 – 31/12/2020
TOTAL AWARDED: 15.000,00 €
PRINCIPAL INVESTIGATOR: **Dr. Joost van de Weijer**

TITLE: *Image Sequence Evaluation (ISE Lab)*
REFERENCE: 2017 SGR 1669
FUNDING ENTITY: AGAUR
DURATION: 01/01/2017 – 31/12/2020
TOTAL AWARDED: 10.000,00 €
PRINCIPAL INVESTIGATOR: **Dr. Jorge Bernal**

TITLE: *Intelligent Reading Systems*
REFERENCE: 2017 SGR 1783
FUNDING ENTITY: AGAUR
DURATION: 01/01/2017 – 31/12/2020
TOTAL AWARDED: 36.000,00 €
PRINCIPAL INVESTIGATOR: **Dr. Josep Lladós**

TITLE: *ACDC – Automated and Cooperative Driving in the City*
REFERENCE: 2017 SGR 1597
FUNDING ENTITY: AGAUR
DURATION: 01/01/2017 – 31/12/2020
PRINCIPAL INVESTIGATOR: **Dr. Antonio M. López**

TITLE: *Multispectral Image Analysis and Understanding*
REFERENCE: 2017 SGR 1183
FUNDING ENTITY: AGAUR
DURATION: 01/01/2017 – 31/12/2020
PRINCIPAL INVESTIGATOR: **Dr. Daniel Ponsa**

TITLE: *Microelectronic Technology Applied to Cyber-Physical Systems and Biomedical Image Processing*
REFERENCE: 2017 SGR 1624
FUNDING ENTITY: AGAUR
DURATION: 01/01/2017 – 31/12/2020
PRINCIPAL INVESTIGATOR: Dr. Lluís Terés (CNM) / **Dr. Debora Gil (CVC)**

2. Competitive Projects

2.1 Awarded in 2019

National projects:

TITLE: *Tractament i explotació de dades dels fons documentals dels arxius històric*

REFERENCE: Núm. Exp. CLT923/19/00027

FUNDING ENTITY: GENERALITAT DE CATALUNYA

DURATION: 2019

TOTAL AWARDED: 15.000,00 €

PRINCIPAL INVESTIGATOR: **Dr. Josep Lladós**

TITLE: *Personality Computing from Audio-Visual Signals*

REFERENCE: EIN2019-102990

FUNDING ENTITY: Ministerio de Ciencia e Innovación - MICIU

DURATION: 01/06/2019 – 31/05/2021

TOTAL AWARDED: 10.000,00 €

PRINCIPAL INVESTIGATOR: **Dr. Sergio Escalera**

TITLE: *SDME - Structured Deep Multimodal Embedding*

REFERENCE: RTI2018-102285-A-I00

FUNDING ENTITY: Ministerio de Ciencia e Innovación - MICIU

DURATION: 01/01/2019 – 31/12/2021

TOTAL AWARDED: 27.588,00 €

PRINCIPAL INVESTIGATOR: **Dr. Luis Herranz / Dr. Anjan Dutta**

TITLE: *MIRANDA - Massive and Interactive Recognition of our Ancestors' Natural and Digital Archives*

REFERENCE: RTI2018-095645-B-C21

FUNDING ENTITY: Ministerio de Ciencia e Innovación - MICIU

DURATION: 01/01/2019 – 31/12/2021

TOTAL AWARDED: 126.566,00 €

PRINCIPAL INVESTIGATOR: **Dr. Josep Lladós / Dra. Alicia Fornés**

TITLE: *Up4Health - Uncertainty Prediction in Multi-View Cyber-Physical Systems for Personalized Health*

REFERENCE: RTI2018-095209-B-C21

FUNDING ENTITY: Ministerio de Ciencia e Innovación - MICIU

DURATION: 01/01/2019 – 31/12/2021

TOTAL AWARDED: 126.566,00 €

PRINCIPAL INVESTIGATOR: **Dra. Debora Gil / Dra. Aura Hernández**

European projects:

TITLE: *Topological radiomics: Early detection of genetic abnormalities in cancer treatment evolution (TOPiomics)*

REFERENCE: 777222

FUNDING ENTITY: ATTRACT EU

DURATION: 2019-2020

TOTAL AWARDED: 60.000,00 € (Total awarded to the consortium: 100.000,00 €)

PRINCIPAL INVESTIGATOR: **Dr. Debora Gil**

TITLE: *3D kinematics for remote patient monitoring (RPM3D)*

REFERENCE: 777222

FUNDING ENTITY: ATTRACT EU

DURATION: 2019-2020

TOTAL AWARDED: 40.625,00 € (Total awarded to the consortium: 100.000,00 €)

PRINCIPAL INVESTIGATOR: **Dr. Alicia Fornés**

TITLE: *SCORED: Super-Resolution Confocal Microscopy Enhanced by Deep-Learning*

REFERENCE: 777222

FUNDING ENTITY: ATTRACT EU

DURATION: 2019-2020

CVC TOTAL AWARDED: 45.625,00 € (Total awarded to the consortium: 100.000,00 €)

CVC PRINCIPAL INVESTIGATOR: **Dr. Felipe Lumbreras**

2.2 In execution in 2019

National projects:

TITLE: *PERIPHAS - Cuando una imagen vale más que 140 caracteres: anotación automática de imágenes a partir del contenido visual compartido en redes sociales*

REFERENCE: TIN2015-65464-R

FUNDING ENTITY: MINECO

DURATION: 2016-2019

TOTAL AWARDED: 144.466,00 €

PRINCIPAL INVESTIGATOR: **Dr. Jordi González / Dr. Xavier Roca**

TITLE: *Deep Multi-Task Learning for object Recognition*

REFERENCE: TIN2016-79717-R

FUNDING ENTITY: MINECO

DURATION: 2016-2019

TOTAL AWARDED: 39.446,00 €

PRINCIPAL INVESTIGATOR: **Dr. Joost van de Weijer / Dr. Bogdan Raducanu**

TITLE: *XARXES: Tecnologia i innovació ciutadana en la construcció de xarxes socials històriques per a la comprensió del llegat demogràfic*

REFERENCE: RECERCAIXA 2016

FUNDING ENTITY: ACUP/Obra Social La Caixa

DURATION: 15/02/2017 – 14/02/2019

TOTAL AWARDED: 49.324,57 €

PRINCIPAL INVESTIGATORS: **Dr. Alicia Fornés**

TITLE: *aBSINTHE: Búsqueda Semántica de ImágeNes y Texto en HEmerotecas digitales*

REFERENCE: Fundación BBVA 2017

FUNDING ENTITY: BBVA

DURATION: 30/11/2017 – 29/11/2019

TOTAL AWARDED: 74.526,00 €

PRINCIPAL INVESTIGATORS: **Dr. Marçal Rusiñol**

TITLE: *DANA - Developing Autonomous Navigation Agents*

REFERENCE: TIN2017-88709-R

FUNDING ENTITY:

DURATION: 2018-2020

TOTAL AWARDED: 117.370,00 €

PRINCIPAL INVESTIGATOR: **Dr. Antonio M. López / Dr. José Antonio Iglesias**

TITLE: *ViBra - Deep Networks in the Visual Brain: from Measurements to Algorithms*

REFERENCE: DPI2017-89867-C2-1-R

FUNDING ENTITY: Ministerio de Ciencia e Innovación - MICIU

DURATION: 2018-2020

TOTAL AWARDED: 102.850,00 €

PRINCIPAL INVESTIGATOR: **Dr. Xavier Otazu / Dr. C. Alejandro Párraga**

TITLE: *READS - Reading the Scene: Integrating reading systems in holistic scene*
REFERENCE: TIN2017-89779-P
FUNDING ENTITY: Ministerio de Ciencia e Innovación - MICIU
DURATION: 2018-2020
TOTAL AWARDED: 81.554,00 €
PRINCIPAL INVESTIGATOR: **Dr. Dimosthenis Karatzas / Dr. Ernest Valveny**

TITLE: *BOSSS - Building Optimized Spectro-Selective Systems: Generation of multispectral vision systems optimized through machine learning*
REFERENCE: TIN2017-89723-P
FUNDING ENTITY: Ministerio de Ciencia e Innovación - MICIU
DURATION: 2018-2020
TOTAL AWARDED: 53.119,00 €
PRINCIPAL INVESTIGATOR: **Dr. Felipe Lumbreras / Dr. Daniel Ponsa**

European projects:

TITLE: *CybSPEED: Cyber-Physical Systems for PEdagogical Rehabilitation in Special Education*
REFERENCE: 777720
FUNDING ENTITY: European Commission
DURATION: 2017-2021
TOTAL AWARDED: 18.000,00 € (Total awarded to the consortium: 1.296.000,00 €)
CVC PRINCIPAL INVESTIGATOR: **Dr. Bogdan Raducanu**

TITLE: *VALIDITHI: Validation of an Innovative Dietary Intake Tool for Healthcare Implementation*
REFERENCE: 19178
FUNDING ENTITY: EIT Health
DURATION: 2019-2020
TOTAL AWARDED: 139.547,00 € (Total awarded to the consortium: 2.274.940,00 €)
CVC PRINCIPAL INVESTIGATOR: **Dr. Petia Radeva**

TITLE: *Time Machine*
REFERENCE: 820323
FUNDING ENTITY: European Commission
DURATION: 2019-2020
TOTAL AWARDED: 14.016,00 € (Total awarded to the consortium: 997.930,00 €)
CVC PRINCIPAL INVESTIGATOR: **Dr. Josep Lladós / Dr. Alicia Fornés**

TITLE: *E-Pilots: Evolution of cockPIt operations Levering on cOgnitive compuTing Services*
REFERENCE: 831993
FUNDING ENTITY: European Commission
DURATION: 2018-2021
TOTAL AWARDED: 96.500,00 € (Total awarded to the consortium: 796.056,25€)
CVC PRINCIPAL INVESTIGATOR: **Dr. Debora Gil**

TITLE: *DECRYPT: Decryption of historical manuscripts*
REFERENCE: 19710521
FUNDING ENTITY: Swedish Research Council
DURATION: 2019-2024
TOTAL AWARDED: 250.000,00 € (Total awarded to the consortium: 2.738.854,00 €)
CVC PRINCIPAL INVESTIGATOR: **Dr. Alicia Fornés**

Other grants:

TITLE: *Reflexió Palau Macaya*
FUNDING ENTITY: FUNDACIÓ LA CAIXA
DURATION: 01/09/2018 – 30/06/2019
TOTAL AWARDED: 9.415 €
PRINCIPAL INVESTIGATOR: **Alexandra Canet**

TITLE: *Library Living Lab: experimentar la Inteligencia Artificial*
REFERENCE: FCT-17-12879
FUNDING ENTITY: FECYT
DURATION: 01/01/2018 – 31/03/2019
TOTAL AWARDED: 14.000 €
PRINCIPAL INVESTIGATORS: **Meritxell Bassolas – Alexandra Canet**

Participation in external projects:

TITLE: *Red Temática en Vehículos Inteligentes (Retevi)*
REFERENCE: TRA2017-90620-REDT
FUNDING ENTITY: MICIU
DURATION: 01/07/2018-30/06/2020
TOTAL AWARDED: 9.000 €
PRINCIPAL INVESTIGATOR: Dr. Felipe Jiménez (UPM)
RESEARCH TEAM MEMBERS: **Dr. Antonio M. López**

TITLE: *Validación clínica del primer sistema in-vivo de predicción histológica automática de los pólipos de colon integrando la visión del endoscopista con la visión por computador (HISINVIA)*
REFERENCE: PI17/00894
FUNDING ENTITY: Instituto de Salud Carlos III
DURATION: 01/01/2018-31/12/2020
TOTAL AWARDED: 117.370 €
PRINCIPAL INVESTIGATOR: Dr. Maria Gloria Fernández Esparrach (IDIBAPS)
RESEARCH TEAM MEMBERS: **Dr. Jorge Bernal and Dr. F. Javier Sánchez**

TITLE: *Red temática Iberoamericana sobre aplicaciones TICS para ciudades inteligentes (TICs4CI)*
REFERENCE: P517RT0176
FUNDING ENTITY: CYTED – Ciencia y Tecnología para el Desarrollo
DURATION: 01/01/2018-31/12/2021
TOTAL AWARDED: 117.370 €
PRINCIPAL INVESTIGATOR: **Dr. Angel Sappa**
RESEARCH TEAM MEMBERS: **Dr. Bogdan Raducanu (CVC IP), Dr. Joost van de Weijer, Dr. Luis Herranz, Dr. Alejandro Parraga**

3. Human Resources Grants

3.1 Awarded in 2019

Pre-doc grants:

TITLE: *Sistemes recomanadors per a la realització de càmeres en directe* (Industrial Doctorate with LANG and UAB)

REFERENCE: 2018 DI 106

FUNDING ENTITY: AGAUR

DURATION: 08/02/2018 – 07/02/2021

HOLDER: **Arturo Fuentes**

ADVISOR: **Dr. Jorge Bernal**

TITLE: *Development of AI drivers for level 4-5 autonomous driving* (Industrial Doctorate with SEAT and UAB)

REFERENCE: 2018 DI 104

FUNDING ENTITY: AGAUR

DURATION: 26/06/2019 – 25/06/2022

HOLDER: **Ferran Carrasquer**

ADVISOR: **Dr. Antonio López**

TITLE: *FPI - Ayudas para contratos predoctorales para la formación de doctores*

REFERENCE: PRE2018-083417

FUNDING ENTITY: Ministerio de Ciencia e Innovación - MICIU

DURATION: 01/09/2019 – 31/08/2023

HOLDER: **Diego Porres**

ADVISOR: **Dr. Antonio López**

3.2 In execution in 2019

Post-doc grants:

TITLE: *P-Sphere Program*

FUNDING ENTITY: UAB-Cofund Program

DURATION: 15/03/2017 – 30/09/2020

HOLDER: **Dr. Luis Herranz**

TITLE: *P-Sphere Program*

FUNDING ENTITY: UAB-Cofund Program

DURATION: 01/04/2017 – 31/07/2019

HOLDER: **Dr. Anjan Dutta**

TITLE: *P-Sphere Program*

FUNDING ENTITY: UAB-Cofund Program

DURATION: 23/05/2017 – 31/08/2019

HOLDER: **Dr. José Antonio Iglesias**

TITLE: *P-Sphere Program*
FUNDING ENTITY: UAB-Cofund Program
DURATION: 01/04/2018 – 31/12/2019
HOLDER: **Dr. Mohammed Al-Rawi**

TITLE: *DeepPhotoArchive: Deep Learning tech to enrich photo archives access*
REFERENCE: TECSPR17-1-0026
FUNDING ENTITY: ACCIÓ
DURATION: 08/02/2018 – 07/02/2021
HOLDER: **Dr. Lluís Gómez**

TITLE: *iOr_LUNC: Intel Operating Room for in vivo lung cancer diagnosis*
REFERENCE: TECSPR17-1-0045
FUNDING ENTITY: ACCIÓ
DURATION: 17/09/2018 – 16/09/2020
HOLDER: **Dr. Carles Sánchez**

TITLE: *FPI - Ayudas para contratos predoctorales para la formación de doctores (Etapa POP)*
REFERENCE: BES-2015-073105
FUNDING ENTITY: MINECO
DURATION: 28/12/2018 – 31/10/2019
HOLDER: **Dr. Dena Bazazian**
ADVISOR: **Dr. Dimosthenis Karatzas**

Pre-doc grants:

TITLE: *FI - Ajuts per a la contractació de personal investigador novell*
REFERENCE: 2019FI_B2 00189
FUNDING ENTITY: AGAUR
DURATION: 01/05/2017 – 30/04/2020
HOLDER: **Marc Masana**
ADVISOR: **Dr. Joost van de Weijer**

TITLE: *FI - Ajuts per a la contractació de personal investigador novell*
REFERENCE: 2019FI_B1 00196
FUNDING ENTITY: AGAUR
DURATION: 01/04/2018 – 30/03/2021
HOLDER: **Arnau Baró**
ADVISOR: **Dr. Alicia Fornés**

TITLE: *Visual Search for Fashion Products, Industrial Doctorate with Wide Eyes and UAB*
REFERENCE: 2016 DI 039
FUNDING ENTITY: AGAUR
DURATION: 06/03/2017 – 05/03/2020
HOLDER: **Vacit Oguz Yacizi**
ADVISOR: **Dr. Joost van de Weijer**

TITLE: *Exploiting the Interplay between Visual and Textual Image Content for Scene Interpretation*, Industrial Doctorate with Fundació Eurecat and UAB
REFERENCE: 2016 DI 084
FUNDING ENTITY: AGAUR
DURATION: 03/03/2017 – 02/03/2020
HOLDER: **Raul Álamo Gómez**
ADVISOR: **Dr. Dimosthenis Karatzas**

TITLE: *Making historical archives searchable. Multiwriter word recognition and spotting using transfer learning models*, Industrial Doctorate with Qidenus and UAB
REFERENCE: 2016 DI 095
FUNDING ENTITY: AGAUR
DURATION: 18/04/2017 – 17/04/2020
HOLDER: **Manuel Carbonell**
ADVISORS: **Dr. Alicia Fornés / Dr. Josep Lladós**

TITLE: *Making historical archives searchable. Semantic annotation of handwritten word images*, Industrial Doctorate with Qidenus and UAB
REFERENCE: 2016 DI 087
FUNDING ENTITY: AGAUR
DURATION: 18/04/2017 – 17/04/2020
HOLDER: **Lei Kang**
ADVISORS: **Dr. Marçal Rusiñol / Dr. Alicia Fornés**

TITLE: *Object detection in multimodal data* (Industrial Doctorate with Ficosa and UAB)
REFERENCE: 2017 DI 096
FUNDING ENTITY: AGAUR
DURATION: 08/02/2018 – 07/02/2021
HOLDER: **Yainuivis Socarras**
ADVISOR: **Dr. Aura Hernández**

TITLE: *FPI - Ayudas para contratos predoctorales para la formación de doctores*
REFERENCE: BES-2015-073722
FUNDING ENTITY: MINECO
DURATION: 08/03/2016 – 07/03/2020
HOLDER: **Hassan Ahmed Sial**
ADVISOR: **Dr. María Vanrell / Dr. Robert Benavente**

TITLE: *FPI - Ayudas para contratos predoctorales para la formación de doctores*
REFERENCE: BES-2016-078042
FUNDING ENTITY: MINECO
DURATION: 05/06/2017 – 04/06/2021
HOLDER: **Esmitt Ramírez**
ADVISOR: **Dr. Debora Gil**

TITLE: *FPU – Ayudas para la formación de profesorado universitario*
REFERENCE: FPU15/06264
FUNDING ENTITY: Ministerio de Educación, Cultura y Deporte - MECD
DURATION: 01/10/2016 – 30/09/2020
HOLDER: **Pau Riba**
ADVISOR: **Dr. Josep Lladós / Dr. Alicia Fornés**

TITLE: *FPU – Ayudas para la formación de profesorado universitario*
REFERENCE: FPU16/04131
FUNDING ENTITY: Ministerio de Educación, Cultura y Deporte - MECD
DURATION: 30/10/2017 – 29/10/2021
HOLDER: **José Luis Gómez Zurita**
ADVISOR: **Dr. Antonio M. López**

Other grants:

TITLE: *NAVER - Semantic segmentation-based approach for text detection and recognition in natural images*
FUNDING ENTITY: NAVERLABS
DURATION: 01/01/2019-16/05/2019
HOLDER: **Dena Bazazian**
ADVISOR: **Dr. Dimosthenis Karatzas**

TITLE: *NAVER - Improving multi-modal embedding for vision and language tasks*
FUNDING ENTITY: NAVERLABS
DURATION: 13/06/2019-16/12/2020
HOLDER: **Andrés Mafla**
ADVISOR: **Dr. Dimosthenis Karatzas**

4. PhD Theses

Learning to recognize human actions: from hand-crafted to deep-learning based visual representations, by **Albert Clapés**

Supervisor: **Dr. Sergio Escalera**

Date: February 4, 2019

Towards Robust Neural Models for Fine-Grained Image Recognition, by **Pau Rodríguez**

Supervisors: **Dr. Jordi González**, Dr. Josep Ma Gonfaus, **Dr. Xavier Roca**

Date: March 1, 2019

Understanding color vision: from psychophysics to computational modeling, by **Xim Cerdà-Companys**

Supervisor: **Dr. Xavier Otazu**

Date: March 8, 2019

On Building End-to-End Driving Models Through Imitation Learning, by **Felipe Codevilla**

Supervisor: **Dr. Antonio M. López**

Date: May 21, 2019

Behavior understanding of vulnerable road users by 2D pose estimation, by **Zhijie Fang**

Supervisors: **Dr. Antonio M. López** and Dr. David Vázquez (Element AI)

Date: May 24, 2019

Information Extraction from Heterogeneous Handwritten Documents, by **Juan Ignacio Toledo**

Supervisors: **Dr. Josep Lladós** and **Dr. Alicia Fornés**

Date: July 1, 2019

Understanding Eye Movements: Psychophysics and a Model of Primary Visual Cortex, by **David Berga Garreta**

Supervisor: **Dr. Xavier Otazu**

Date: July 26, 2019

Single Sensor Multi-Spectral Imaging, by **Xavier Soria Poma**

Supervisor: **Dr. Angel Sappa**

Date: September 27, 2019

Improving Performance and Interpretability in Recognizing Facial Action Units with DeepNeural Networks, by Ciprian Corneanu

Supervisors: **Dr. Sergio Escalera** and **Dr. Meysam Madadi**

Date: September 30, 2019

An Endoscopic Navigation System for Lung Cancer Biopsy, by **Antonio Esteban Lansaque**

Supervisors: **Dr. Debora Gil** and **Dr. Carles Sánchez**

Date: October 9, 2019

Semantic Representation: from Color to Deep Embeddings, by **Lu Yu**

Supervisors: **Dr. Joost van de Weijer** and Dr. Yongmei Chen

Date: November 4, 2019

Analysis of Background Textures in Banknotes and Identity Documents for Counterfeit Detection, by **Albert Berenguel Centeno**

Supervisors: **Dr. Oriol Ramos**, **Dr. Josep Lladós** and Dr. Cristina Cañero

Date: November 11, 2019

Towards End-to-End Networks for Visual Tracking in RGB and TIR Video, by **Lichao Zhang**

Supervisors: **Dr. Joost van de Weijer**, Dr. Fahad Khan and **Dr. Abel González**

Date: November 19, 2019

Impact of Virtual Bronchoscopic Navigation in the Assessment of Peripheral Pulmonary Lesions, by **Marta Díez Ferrer**

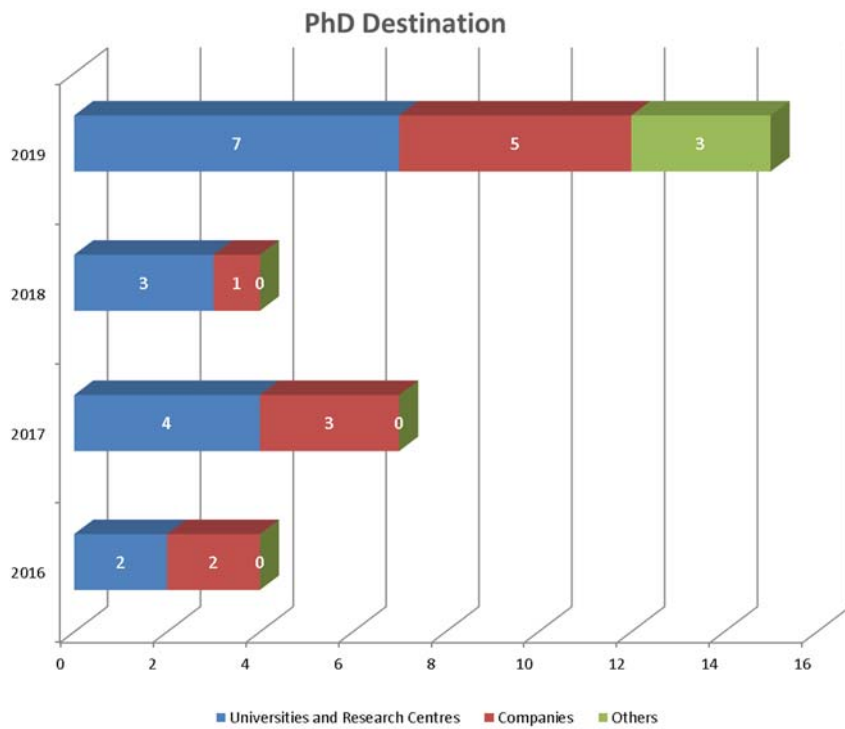
Supervisors: Dr. Antoni Rosell and **Dr. Debora Gil**

Date: December 13, 2019

Visual recognition in the wild: learning from rankings in small domains and continual learning in new domains, by **Xialei Liu**

Supervisors: **Dr. Joost van de Weijer** and Dr. Andrew D. Bagdanov

Date: December 16, 2019



ELEMENT^{AI}

DAIMLER



**THE UNIVERSITY
of EDINBURGH**

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5. Master Theses and Master Projects

Asma Bensalah, *Enjoining A Classifier To Learn Well through Peeping: By Joining Few-shot and Graph Convolutional Neural Networks*, Master in Computer Engineering (UAB)

Supervisors: **Dr. Alicia Fornés**, **Dr. Josep Lladós** and **Pau Riba**

Date: July 11, 2019

Bhaskar Gautam, *Record Linkage in Historical Records of Barcelona*, Master in Computer Engineering (UAB)

Supervisors: **Dr. Oriol Ramos**

Date: July 11, 2019

Basem Galal Elbarashy, *Multimodal Compression Using Deep Learning for Image Reconstruction and Segmentation*, Master in Computer Vision (UAB, UOC, UPC, UPF)

Supervisors: **Dr. Luis Herranz** and **Dr. Jose A. Iglesias Guitán**

Date: September 17, 2019

Facundo Ferrin, *Crop field boundary delineation using Deep Learning*, Master in Computer Vision (UAB, UOC, UPC, UPF)

Supervisors: **Dr. Daniel Ponsa** and **Dr. Felipe Lumbreras**

Date: September 17, 2019

Grzegorz Karol Skorupko, *Robust detection of electronic components in assembly*, Master in Computer Vision (UAB, UOC, UPC, UPF)

Supervisors: **Dr. Javier Sánchez** and **Dr. Jorge Bernal**

Date: September 17, 2019

Zuzanna Maria Szafranowska, *Building footprint extraction in high-altitude*, Master in Computer Vision (UAB, UOC, UPC, UPF)

Supervisor: **Dr. Joan Serrat**

Date: September 17, 2019

Jordi Puyoles, *Unpaired image-to-image translation for cross-domain disentanglement*, Master in Computer Vision (UAB, UOC, UPC, UPF)

Supervisor: **Dr. Joost van de Weijer**

Date: September 17, 2019

Sergi García Bordils, *Using Mixture Density Networks to Embed Images in Text Topic Spaces*, Master in Computer Vision (UAB, UOC, UPC, UPF)

Supervisor: **Dr. Dimosthenis Karatzas**

Date: September 17, 2019

Akram Kohansal, *Evaluation of OCR on understanding advertisements*. Master in Computer Engineering (UAB)

Supervisor: **Dr. Ernest Valveny**

Date: September 2019

Elias Kasma, *Synthetic Visual Data for In-Context Scene Text Understanding*. Master in Computer Engineering (UAB)

Supervisors: **Dr. Dimosthenis Karatzas** and **Dr. Ernest. Valveny**

Date: September 2019

Diego E. Apéstegui Quesada, *Creation of a supermarket grocery dataset for Computer Vision*. Master in Computer Engineering (UAB)

Supervisors: **Dr. Dimosthenis Karatzas** and **Dr. Lluís Gómez**

Date: September 2019

Josep Famadas, *Generative Video Face Reenactment by AUs and Gaze Regularization*. Master in Artificial Intelligence (UB, URV)

Supervisors: **Dr. Meysam Madadi**, **Dr. Sergio Escalera** and Dr. Cristina Palmero

Date: October 15, 2020

Gianmarco Biscini, *Gamification techniques for scene text collection*, Master in Ingegneria Informatica (Università degli Studi di Firenze)

Supervisors: **Dr. Dimosthenis Karatzas** and Dr. Andrew D. Bagdanov

Date: November 26, 2019

6. Research Stays

During 2019, CVC's research staff had carried out 13 research stays, all of them in labs outside Spain. Of these, 8 were in centers in Europe, 3 in America and 2 in Asia.

6.1 Outgoing Research Stays

Postdoctoral:

Dr. Dena Bazazian, Naver Labs, Grenoble (France). Collaboration with Dr. Jon Almazán. From January 07 to March 29 2019

Dr. Jordi González, Graduate School of Engineering, Kobe University (Japan). Collaboration with Prof. Seiichi Ozawa. From March 25 to May 10, 2019.

Dr. Anjan Dutta, Amsterdam Machine Learning (AMBLab), Amsterdam (The Netherlands). Collaboration with Dr. Zeynep Akata. From April 1 to June 30, 2019.

Dr. Debora Gil, Erasmus + stay, West University of Timisoara. Collaboration with Daniela Zaharie and Mihail Gaiaru. From: March 25-29, 2019

Dr. Jorge Bernal, CELL Group, Lab. ETIS, ENSEA - École Nationale Supérieure de l'Électronique et de ses Applications, Cergy (France). Collaboration with Prof. Aymeric Histace. From November 13 to December

PhD Students:

Pau Riba, New York University, NY (USA). Supervisor: Dr. Joan Bruna. From January 15 to June 15, 2019

Hassan Ahmed Sial, Stony Brook University, Stony Brook (USA). Supervisor: Dr. Dimitris Samaras. From March to June

Xialei Liu, Amazon Web Services, Seattle (USA). Supervisors: Avinash Ravichandran and Hao Yang. From May 5 to September 6, 2019

Yaxing Wang, Inception Institute of Artificial Intelligence (IIAI), Abu Dhabi (UAE). Supervisors: Dr. Salman Khan and Dr. Fahad Shahbaz Khan. From May 15 to August 10, 2019

Idoia Ruiz, Mapillary, Graz (Austria). Supervisors: Dr. Peter Kotschieder and Dr. Lorenzo Porzi. From June 3 to August 30, 2019

Ali Furkan Bite, Institute for Language, Cognition and Computation, School of Informatics, University of Edinburgh (UK). Supervisor: Dr. Shay Cohen. From July 17 to October 5, 2019.

Andrés Mafla, Naver Labs, Grenoble (France). Supervisor: Dr. Diane Larlus and Dr. Rafael Rezende. From October 6 to December 12, 2019

Ferran Carrasquer, Group Innovation Perception, Volkswagen AG, Wolfsburg (Germany). Supervisor: Dr. Thorsten Bagdonat. From December 1, 2019 to February 1, 2021

Andrés Mafla, Naver Labs (France). Supervisor: Dr. Diane Larlus. From January 30 to February 27, 2020

6.2 Incoming Research Stays and Internships

During 2019, we received researchers coming from other centers and institutions most of them outside Spain.

Postdoctoral:

- Dr. Monica Tirea, West University of Timisoara (Romania). Collaboration with **Dr. Debora Gil** (IAM Group). June, 2019

PhD students:

- Noor Ul Huda. Visual Analysis of People Laboratory, Aalborg (Denmark). Supervisor: **Dr. Sergio Escalera** (HuPBA Group). From February 2 to May 5, 2019
- Corina Kräuter, Erasmus Traineeship, Graz University of Technology (Austria). Supervisor: **Dr. Debora Gil** (IAM Group). From March 5 to September 6, 2019
- Mohamed Ali Souibgui, ISITCom Sousse, MIRACL Laboratory, Univ. of Sfax (Tunisia) Supervisor: **Dr. Alicia Fornés** (DAG Group). From May 3 to June 30, 2019
- Sebastian Stefaniga, Erasmus +, West University of Timisoara (Romania). Supervisor: **Dr. Debora Gil** (IAM Group). From June 15 to September 30, 2019
- Victoria Ruiz, Universidad Rey Juan Carlos, Madrid (Spain). Supervisor: **Dr. Raducanu** (LAMP Group). From June 17 to September 30, 2019

In addition, we also hosted for periods between 1 to 6 months (within the academic year), young master, undergraduate and also high-school students to develop their projects or a training stage in some of the CVC research groups. Of these, 6 came from other centers or universities outside Spain, such as India, Iran and Italy.

In some cases, these stages have been the introduction to research work.

Master students:

- Akram Kohansal, UAB, Work Placement and Master Project. Supervisor: **Dr. Ernest Valveny** (DAG Group). From June 20, 2018 to January 31 2019
- Bhaskar Gautam, UAB, Work Placement. Supervisor: **Dr. Oriol Ramos** (DAG Group). From November 2018 to February 2019 and July-August 2019
- Vitali Kudinov, UAB, Work Placement. Supervisor: **Dr. José A. Iglesias** (ADAS Group). Dates: November 2018 to April 2019
- Elias Kasma, UAB, Work Placement. Supervisors: **Dr. Dimosthenis Karatzas** (DAG Group). From January 14 to May 28, 2019
- Asma Bensalah, UAB, Work Placement. Supervisor: **Dr. Alicia Fornés**. From February 20 to August 31, 2019
- Beye Papa, École des Mines d'Alès, Ales (France). Supervisor: **Dr. Marçal Rossinyol** (DAG Group). From May 6 to August 8, 2019
- Seyed Erfan Alesahbafosoul, UAB, Master project. Supervisors: **Dr. Debora Gil** (IAM Group) and **Dr. Oriol Ramos** (DAG Group). From May 17 to September 17, 2019

- Basem Elbarashy, UAB, Work Placement. Supervisor: **Dr. Luis Herranz** (Lamp Group) and **Dr. José A. Iglesias** (ADAS Group). From June 11 to September 11, 2019
- Daniel Romero, UAB, Master project. Supervisor: **Dr. Felipe Lumbreras** (MSIAU Group). From October 10, 2019 to March 15, 2020

Undergraduate students:

- Eric Cañas, UAB, Work Placement. Supervisor: **Dr. Maria Vanrell** (CiC Group). From September 1, 2019 to February 2, 2019
- Federico Bambagioni, Erasmus Traineeship, Università degli Studi di Firenze (Italy). Supervisor: **Dr. Joost van de Weijer** (LAMP Group). From October 19, 2018 to April 18, 2019
- Gianmarco Biscini, Erasmus Traineeship, Università degli Studi di Firenze (Italy). Supervisor: **Dr. Dimosthenis Karatzas** (DAG Group). From November 5, 2018 to April 30, 2019
- Jacopo Bianchini, Erasmus Traineeship, Università degli Studi di Firenze (Italy). Supervisor: **Dr. Dimosthenis Karatzas** (DAG Group). From November 5, 2018 to April 30, 2019
- Zeijian Zhang, UAB, Work Placement and Final Project. Supervisors: **Guillermo Torres** (IAM Group). From January 28 to September 30, 2019
- Daniel Herbon, UAB, Work Placement. Supervisor: **Dr. Fernando Vilariño** (Visual Interaction Group). From January 22 to March 31, 2019
- Yael Tudela, UAB, Work Placement and Final Project. Supervisor: **Dr. Javier Sánchez** (ISE Group). From January 23 to April 30, 2019
- Diego Velázquez, UAB, Work Placement. Supervisor: **Dr. Jordi González** (ISE Group). From February 16 to July 31, 2019
- Giussepina Pietroniro, Erasmus Traineeship, Università de Molise (Italy). Supervisor: **Dr. Alejandro Parraga** (NeuroBiT Group). From March 1 to May 31, 2019
- Daniel Boixader, UAB, Final Project. Supervisor: **Dr. Ramon Baldrich** (CiC Group). From March 7 to June 7, 2019
- Francisco Domene, UAB, Work Placement. Supervisor: **Marc García** (ADAS Group). From June 21 to August 14, 2019
- Marc Montagut, UAB, Work Placement. Supervisor: **Dr. Dimosthenis Karatzas** (DAG Group). From June 27 to October 10, 2019
- Guillermo Cid, UAB, Work Placement. Supervisor: **Dr. Felipe Lumbreras** (MSIAU Group). From July 1 to September 16, 2019
- Abel Serrat, UAB, Work Placement. Supervisor: **Coen Antens** (CVC Lab). From July 1 to July 31, 2019
- Siddhant Bhambri, Bharati Vidyapeeth's College of Engineering, New Delhi (India). Supervisor: **Dr. Bogdan Raducanu** (LAMP Group). From July 8 2019 to June 30, 2020
- Cosmina Nicu., UAB, Work Placement. Supervisor: **Dr. Marçal Rossinyol** (DAG Group). From July 11 to October 18, 2019
- Marina Riera, UAB, Work Placement. Supervisor: **Dr. Jorge Bernal** (ISE Group). From July 15 to December 16, 2019

- Alan Roldan, UAB, Final Project. Supervisor: **Dr. Aura Hernández** (IAM Group). From October 22 2019 to February 17 2020

High School students:

- Anna Monrabà, (Treball de Recerca), Institut Vilamajor. Supervisor: **José Luis Gómez** (ADAS Group). From June 28 to October 1, 2019
- Pau Conesa, High School Extraordinary Award 2017-2018. Supervisor: **Andrés Mafla** (DAG Group). From July 1 to July 5, 2019
- Luis Tortosa, High School Extraordinary Award 2017-2018. Supervisor: **Rubén Pérez** (DAG Group). From July 1 to July 5, 2019
- Merlès Subirà Cribillers, High School Extraordinary Award 2017-2018. Supervisor: **Manuel Carbonell** (DAG Group). From July 15 to July 9, 2019

CVC Internship Program:

With the aim of promoting science and innovation and to encourage research in highly talented young students, the Computer Vision Center hosts the Computer Vision Center Internship Program. This program is addressed to worldwide students, ideally during the last year of their undergraduate studies.

The CVC offers these students a research environment, that will constitute their first exposure to a research challenge, during periods of 3 months.

During 2019, the CVC hosted the following students:

1st Call

- Vitalii Kudinov (Russia). Supervisor: **Dr. José A. Iglesias** (ADAS Group)
- Klara Janouskova (Czech Republic). Supervisor: **Dr. Dimosthenis Karatzas** (DAG Group)
- Sudeep Katakol (India). Supervisor: **Dr. Luis Herranz** (LAMP Group)
- Sahil Gupta (India). Supervisor: **Dr. Antonio López** (ADAS Group)

2nd Call:

- Sorina Georgiana Smeureanu (Romania). Supervisor: **Dr. Sergio Escalera** (HupBA Group)
- Arnau Mas Dorca (Spain). Supervisor: **Dr. Debora Gil** (IAM Group)
- Marina Riera Velasco (Spain). Supervisor: **Dr. Javier Sánchez** and **Dr. Jorge Bernal** (ISE Group)
- Aditya Rana (India). Supervisor: **Dr. Antonio López** (ADAS Group)
- Daniel Arco Alonso (Spain). Supervisor: **Dr. Alejandro Parraga** (NeuroBit Group)
- Siddhant Bhambri (India). Supervisor: **Dr. Bogdan Raducanu** (LAMP Group)

7. Invited Talks by CVC Personnel

In scientific conferences and workshops:

Towards a Generic Unsupervised Method for Transcription of Encoded Manuscript, in DATeCH 2019 - 3rd International Conference on Digital Access to Textual Cultural Heritage

Speaker: **Arnau Baró**

Place: Royal Flemish Academy of Belgium for Science and the Arts (Brussels)

Date: May 9, 2019

The combination of Computer Vision. Crowdsourcing and Gamification for speeding up the transcription of historical manuscripts, in Digital Humanities Conference: Crowd Sourcing and Citizen Science

Speaker: **Dr. Alicia Fornés**

Place: Haifa (Israel)

Date: May 22, 2019

<https://ayeletlab.net.technion.ac.il/2019/04/17/digital-humanities-conference-crowdsourcing-and-citizen-science/>

Minimizing Annotation Effort, invited talk at 1st Workshop on Unsupervised Learning for Automated Driving, in conjunction with IEEE Intelligent Vehicles Symposium 2019

Speaker: **Dr. Antonio M. López**

Place: MINES ParisTech, Paris,

Date: June 9 2019

<http://intelligent-vehicles.org/ulad-2019/>

Virtual worlds for 3D Object Detection, in 2nd Edition of Deep Learning for Automated Driving (DLAD) Workshop, in conjunction with IEEE Intelligent Vehicles Symposium 2019

Speaker: **Dr. Antonio M. López**

Place: MINES ParisTech, Paris,

Date: June 9 2019,

<https://sites.google.com/view/3d-dlad-iv2019/home>

FBK-HUPBA Submission to the EPIC-Kitchens 2019 Action Recognition Challenge, in Fourth International Workshop on Egocentric Perception, Interaction and Computing (EPIC), in conjunction with CVPR 2019

Speakers: Swathikiran Sudhakaran, **Dr. Sergio Escalera** and Dr. Oswald Lanz

Place: Long Beach (USA)

Date: June 17, 2019

Transparency and Interpretability in Human-Centric Learning, in ELLIS Human-Centric Learning workshop, in conjunction with DALI 2019– Data, Learning and Inference

Speaker: **Dr. Sergio Escalera**

Place: Bilbao (Spain)

Date: September 3, 2019

<http://dalimeeting.org/dali2019b/workshop-03-02.html>

Advances in Artificial Intelligence - How Lung Cancer CT Screening Will Progress?, World Lung Cancer Conference

Speaker: **Dr. Debora Gil**

Place: Barcelona (Spain)

Date: September 7-10, 2019

<https://wclc2019.iaslc.org/>

Surviving in man-made environments: the case for language and vision, in Session 5 – Future of the Machines and Social Interaction/Intervention, Workshop 3 COCOLAD: Human-Machine Co-creation, Co-learning and Co-adaptation, in conjunction with Global Forum on AI for Humanity

Speaker: **Dr. Dimosthenis Karatzas**

Place: Pars (France)

Date: October 28, 2019

https://gfaih.org/download/GFAIH_Program.pdf

The combination of computer vision and gamification for transcribing historical manuscripts, in Panel 3 Digital History, Workshop 2 AI for digital Humanities and computational social sciences, in conjunction with Global Forum on AI for Humanity

Speaker: **Dr. Alicia Fornés**

Place: Paris (France)

Date: October 28, 2019

https://gfaih.org/download/GFAIH_Program.pdf

In courses and tutorials:

End-to-end Driving, in BCN.ai Spring'19

Speaker: **Dr. Antonio M. López**

Place: MoviStar Centre (Barcelona)

Date: March 1, 2019

<https://app.tame.events/e/55375638>

Computer Vision Techniques, in the 'Malaysian training program' at the BCN drone center.

Speaker: **Dr. Daniel Ponsa**

Place: BCN Drone Center

Date: April 2, 2019

<https://www.barcelonadronecenter.com/uav-remote-sensing-applications/>

Computer Vision Techniques, in the course 'Aplicació de les TIC a la gestió forestal' at BCN drone center

Speaker: **Dr. Daniel Ponsa**

Place: BCN Drone Center

Date: May 5, 2019

Deep Learning for Medical Imaging, to students of the Biomedical Technologies Master's Degree of the Mondragon University (Basque Country)

Speaker: **Dr. Debora Gil**

Place: CVC

Date: May 14th, 2019

<https://www.mondragon.edu/en/-/el-alumnado-del-master-en-tecnologias-biomedicas-ha-realizado-su-segundo-learning-journey-con-barcelona-como-destino>

Intelligent Reading Systems in Historical Archive Images, in Stratégies numériques et traitements automatiques dans le développement des applications dédiées aux patrimoines numérisés, Séminaire UDPN

Speaker: **Dr. Josep Lladós**

Place: Paris (France)

Date: May 29, 2019

<http://udpn.fr/spip.php?article310>

Uncertainty-aware food recognition, in BCN.ai Summer'19

Speaker: **Dr. Petia Radeva**

Place: MoviStar Centre (Barcelona)

Date: June 7th, 2019

<https://app.tame.events/e/70174951>

What does it mean to learn in deep networks, in BCN.ai Summer'19

Speaker: **Ciprian Corneau**

Place: MoviStar Centre (Barcelona)

Date: June 7th, 2019

<https://app.tame.events/e/70174951>

Computer Vision Techniques, in the course 'Drone Remote Sensing Applications' at the BCN drone center

Speaker: **Dr. Daniel Ponsa**

Place: BCN Drone Center

Date: June 13, 2019

Introduction to medical imaging processing I, at 27th Summer School on Image Processing (SSIP)

Speaker: **Dr. Debora Gil**

Place: Timisoara (Romania)

Date: July 8-17, 2019

<https://www.info.uvt.ro/ssip2019/#ontop>

Introduction to medical imaging processing II, at 27th Summer School on Image Processing (SSIP)

Speaker: **Dr. Carles Sánchez**

Place: Timisoara (Romania)

Date: July 8-17, 2019

<https://www.info.uvt.ro/ssip2019/#ontop>

Multimodal embeddings, at the 4th Summer School on Machine Learning

Speaker: **Dr. Marçal Rossinyol**

Place: IIIT, Hyderabad

Date: July 2019

Visión por computador aplicada al análisis de documentos históricos, in "Investigación y Humanidades Digitales: Por qué, cómo y para qué" Seminar, July 29 to August 2, 2019

Speaker: **Dr. Alicia Fornés**

Place: Universidad Internacional Menéndez Pelayo (Santander, Spain)

Date: July 31, 2019

<http://wapps002.uimp.es/uxxiconsultas/ficheros/0/5138764CU.pdf>

GMPRDIA: Graph-based Methods in Pattern Recognition and Document Image Analysis, tutorial in 15th International Conference on Document Analysis and Recognition (ICDAR) 2019

Presenters: Dr. M. Luqman, **Dr. Anjan Dutta** and **Pau Riba**

Place: University of Technology, Sidney (Australia)

Date: September 21, 2019

<http://gmprdia.univ-lr.fr/>

Vision and Language: the text modality in Computer Vision, tutorial in 15th International Conference on Document Analysis and Recognition (ICDAR) 2019

Presenters: **Dr. Dimosthenis Karatzas**, **Dr. Marçal Rossinyol**, **Dr. Lluís Gómez** and **Raúl Gómez**

Place: University of Technology, Sidney (Australia)

Date: September 21, 2019

https://sites.google.com/view/icdar2019-vl#h.p_HFdKt66r0901

Temporal Coherence for Active Learning in Videos, in Taller conjunto sobre Deep Learning y Ciencia de Datos

Speaker: **Dr. Bogdan Raducanu**

Place: Guanajuato (Mexico)

Date: October 2-3, 2019

<http://dlds2019.eventos.cimat.mx/>

Exploring the limitations of behavior cloning for autonomous driving (ICCV 2019), in Deep Learning Barcelona (DLBCN)

Speaker: **Dr. Antonio M. López**

Place: Barcelona

Date: December 19, 2019

<https://sites.google.com/view/dlbcn2019/program/talks>

Scene text visual question answering (ICCV 2019), in Deep Learning Barcelona (DLBCN)

Speaker: **Dr. Lluís Gómez**

Place: Barcelona

Date: December 20, 2019

<https://sites.google.com/view/dlbcn2019/program/talks>

Exploring hate speech detection in multimodal publications (WACV 2019), in Deep Learning Barcelona (DLBCN)

Speaker: **Raul Gómez**

Place: Barcelona

Date: December 20, 2019

<https://sites.google.com/view/dlbcn2019/program/talks>

In other events:

Visió i missió d'un centre d'investigació respecte al vehicle connectat i la conducció automatitzada, in «Jornada del vehicle autònom i connectat: evolució o revolució»

Speaker: **Dr. Antonio M. López**

Place: Centre de Formació Professional d'Automoció, Martorell

Date: January 29, 2019

<https://eseiaat.upc.edu/ca/esdeveniments/jornada-vehicle-autonom-i-connectat-evolucio-o-revolucio>

Memory Replay GANs and Mix and Match Networks

Speaker: **Dr. Luis Herranz**

Places: Institut de Robòtica e Informàtica (IRI), Barcelona

Date: February 2019

Autonomous driving: cars and UAVs, in ExperimentAI

Speaker: **Dr. Antonio M. López**

Place: Living Lab of Volpelleres, Sant Cugat (Spain)

Date: February 20, 2019

<http://librarylivinglab.cvc.uab.cat/calendar/experimentai15/?lang=en>

Participation in the panel “XI Espai Despuig – Les oportunitats del món digital”

Speaker: **Dr. Josep Lladós**

Place: Riudoms (Spain)

Date: February 23, 2019.

<http://www.riberadebre.org/lxi-espai-despuig-analitzara-les-oportunitats-que-ofereix-el-mon-digital-a-la-recerca-local-2/>

Participation in «Oportunitats Industrials en Electromobilitat + Pla Estratègic Mobility», CIAC event

Speaker: **Dr. Antonio M. López**

Place: Campus Motor Anòia, Castellolí (Barcelona)

Date: March 12, 2019

Towards Practical Sketch-based Image Retrieval

Speaker: **Dr. Anjan Dutta**

Place: Amsterdam Machine Learning Lab, University of Amsterdam (The Netherland)

Date: April, 18, 2019

<http://amlab.science.uva.nl/2019/04/15/talk-by-anjan-dutta/>

Modelling the interplay between visual and textual information

Speaker: **Dr. Dimosthenis Karatzas**

Place: Naver Labs Europe, Grenoble (France)

Date: April 26, 2019

<https://europe.naverlabs.com/research/seminars/modelling-the-interplay-between-visual-and-textual-information-for-computer-vision-applications/>

Learning Deep Networks from Unlabeled Data

Speaker: **Dr. Joost van de Weijer**

Place: Huawei, Chenzhen (China)

Date: May 15, 2019

The Impact of AI and 5G in drone, round table in Catalonia and Drone Conference

Speaker: **Dr. Josep Lladós**

Place: Barcelona

Date: May 16, 2019

La inteligencia artificial en conducción autónoma, in Pint of Science

Speaker: **Dr. Antonio López**

Place: Alfa Bar, Barcelona

Date: May 22, 2019

<https://pintofscience.es/event/humanos-3-0-inteligencia-artificial>

Semantically Tied Paired Cycle Consistency for Zero-Shot Sketch-based Image Retrieval

Speaker: **Dr. Anjan Dutta**

Place: Information and Language Processing Systems Lab, Science Park, University of

Amsterdam (The Netherlands) <http://amlab.science.uva.nl/2019/04/15/talk-by-anjan-dutta/>

Date: June 7, 2019

Introducció Tecnològica "Intel·ligència Artificial i Big Data", in Workshop Tecnològic IA & Big Data

Speaker: **Dr. Fernando Vilariño**

Place: Espai Bital, Barcelona

Date: June 13, 2019

The Impact of AI and 5G in drone, expert's table number 7, Pla d'Arxius i Gestió Documental de Catalunya

Speaker: **Dr. Josep Lladós**

Place: Palau Moja (Barcelona)

Date: July 3, 2019

Memory Replay GANs and Mix and Match Networks

Speaker: **Dr. Luis Herranz**

Places: Dublin City University, Dublin (Ireland)

Date: July 2019

Data, data, ...big data en la comunicació científica, round table in Campus Gutenberg-Cosmocaixa de la comunicació y la cultura científicas

Speaker: **Dr. Aura Hernández**

Place: Cosmocaixa (Barcelona)

Date: September 17, 2019

<https://drive.google.com/file/d/1rITO213X1gDd8qkRyKMt4cGYH2eUa7bj/view>

Going beyond Deep Learning in Understanding Human Behaviors in Image Sequences

Speaker: **Dr. Jordi González**

Place: University of Rijeka (Croatia)

Date: September 26, 2019

Ensenyant als ordinadors a llegir música, in Nit Europea de la Recerca

Speaker: **Arnau Baró**

Place: Centre Cívic Urgell (Barcelona)

Date: September 27, 2019

<https://www.isglobal.org/ca/-/noche-europea-de-la-investigacion>

Panel: Building a Time Machine - Roadmaps for the large-scale research initiative - part II, in Time Machine Conference

Speaker: **Dr. Alicia Fornés**

Place: Dresden (Germany)

Date: October 11, 2019

<https://conference.timemachine.eu/index.php/session/panel-time-machine-pillars/>

The Deep Learning Era: Data is the Driver in Autonomous Driving, at the AEV (Audi Electronics Venture) Software Summit

Speaker: **Dr. Antonio M. López**

Place: Ingolstadt, Germany.

Date: October 22, 2019

Learning Neural Networks for Domains with few Labels, in Northwestern Polytechnical University

Speaker: **Dr. Joost van de Weijer**

Place: Xi'an (China)
Date: November 4, 2019

Avoiding Catastrophic Forgetting when Learning a Sequence of Tasks Domains with few Labels, in
Northwestern Polytechnical University

Speaker: **Marc Masana**

Place: Xi'an (China)

Date: November 4, 2019

Participation in the II Fòrum del Vehicle Autònom: La Connectivitat

Speaker: **Dr. Antonio M. López**

Place: ETSEIB- UPC, Barcelona,

Date: November 13, 2019

<https://www.eic.cat/jornades/1108597>

8. Invited Talks at CVC

Mining and Enriching Multilingual Scientific Text Collections: Challenges and Opportunities

Speaker: Horacio Saggion

Affiliation: Large Scale Text Understanding Systems Lab, Universitat Pompeu Fabra (Spain)

Date: January 25, 2019

Open Source Computer Vision Library (OpenCV)

Speaker: **Edgar Riba**

Affiliation: CVC

Date: March 13, 2019

Learning to Reconstruct 3D Objects

Speaker: Dr. Andreas Geiger

Affiliation: Computer Science Department, University of Tübingen and Max Planck Institute for Intelligent Systems, (Germany)

Date: May 21, 2019

CVPR 2019 Presentations, consisting of five talks:

- Talk 1: *Semantically Tied Paired Cycle Consistency for Zero-Shot Sketch-based Image Retrieval*, by **Dr. Anjan Dutta** (CVC)
- Talk 2: *Good News, Everyone! Context driven entity-aware captioning for news images*, by **Ali Furkan Biten** (CVC)
- Talk 3: *What does it mean to learn in deep networks? And, how does one detect adversarial attacks?*, by **Ciprian Corneanu** (University of Barcelona and CVC)
- Talk 4: *Learning Metrics from Teachers: Compact Networks for Image Embedding*, by **Vacit Oguz Yazici** (Wide Eyes and CVC)
- Talk 5: *Doodle to Search: Practical Zero-Shot Sketch-based Image Retrieval*, by **Sounak Dey** (CVC)

Date: June 6, 2019

Multisensor multitemporal AI approaches to the detection and analysis of archaeological settlements at a continental scale

Speaker: Dr. Hèctor A. Orengo

Affiliation: ICAC – Institut Català d'Arqueologia Clàssica, Tarragona (Spain)

Date: June 28, 2019

Research of Dr. Daniela Rus at MIT

Speaker: Dr. Daniela Rus

Affiliation: Computer Science and Artificial Intelligence Laboratory (CSAIL), at Massachusetts Institute of Technology (USA)

Date: July 1, 2019

Comparison and Alignment of Trajectories on Positive Semi-Definite Matrices with Application to Human Behavior Understanding

Speaker: Dr. Mohamed Daoudi

Affiliation: IMT Lille Douai and CRISAL (UMRS), Lille (France)

Date: July 19, 2019

Counting Votes and the Attempt to Replicate Human Interpretation and The Code 8.7 Initiative: Using AI to End Modern Slavery

Speaker: Dr. Daniel Lopresti

Affiliation: Dept. of Computer Science and Engineering, P.C. Rossin College of Engineering and Applied Science, Lehigh University, Bethlehem-PA (USA)

Date: October 4, 2019

Crafting and learning for image matching

Speaker: Dmytro Mishkin

Affiliation: Center for Machine Perception, Czech Technical University, Praha (Czech Republic)

Date: December 13, 2019

Keep on Learning

Speaker: Dr. Tinne Tuytelaars

Affiliation: Department of Electrical Engineering, Katholieke Universiteit Leuven (Belgium)

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9. Publications

9.1 Books (14)

1. Albert Berenguel. "Analysis of background textures in banknotes and identity documents for counterfeit detection". Edited by Oriol Ramos, and Josep Lladós. Ph.D. thesis, Ediciones Graficas Rey, 2019.
2. Albert Clapes. "Learning to recognize human actions: from hand-crafted to deep-learning based visual representations". Edited by Sergio Escalera. Ph.D. thesis, Ediciones Graficas Rey, 2019.
3. Antonio Esteban Lansaque. "An Endoscopic Navigation System for Lung Cancer Biopsy". Edited by Debora Gil, and Carles Sanchez. Ph.D. thesis, Ediciones Graficas Rey, 2019.
4. David Berga. "Understanding Eye Movements: Psychophysics and a Model of Primary Visual Cortex". Edited by Xavier Otazu. Ph.D. thesis, Ediciones Graficas Rey, 2019.
5. Felipe Codevilla. "On Building End-to-End Driving Models Through Imitation Learning". Edited by Antonio Lopez. Ph.D. thesis, Ediciones Graficas Rey, 2019.
6. Juan Ignacio Toledo. "Information Extraction from Heterogeneous Handwritten Documents". Edited by Alicia Fornes, and Josep Lladós. Ph.D. thesis, Ediciones Graficas Rey, 2019.
7. Lichao Zhang. "Towards end-to-end Networks for Visual Tracking in RGB and TIR Videos". Edited by Joost van de Weijer, Abel Gonzalez, and Fahad Shahbaz Khan. Ph.D. thesis, Ediciones Graficas Rey, 2019.
8. Lu Yu. "Semantic Representation: From Color to Deep Embeddings". Edited by Joost van de Weijer, and Yongmei Cheng. Ph.D. thesis, Ediciones Graficas Rey, 2019.
9. Pau Rodriguez. "Towards Robust Neural Models for Fine-Grained Image Recognition". Edited by Jordi Gonzalez, Josep M. Gonfaus, and Xavier Roca. Ph.D. thesis, Ediciones Graficas Rey, 2019.
10. Sergio Escalera, Stephane Ayache, Jun Wan, Meysam Madadi, Umut Guçlu, and Xavier Baro. *Inpainting and Denoising Challenges.*, 2019.
11. Xavier Soria. "Single sensor multi-spectral imaging". Edited by Angel Sappa. Ph.D. thesis, Ediciones Graficas Rey, 2019.
12. Xialei Liu. "Visual recognition in the wild: learning from rankings in small domains and continual learning in new domains". Edited by Joost van de Weijer, and Andrew Bagdanov. Ph.D. thesis, Ediciones Graficas Rey, 2019.
13. Xim Cerda-Company. "Understanding color vision: from psychophysics to computational modeling". Edited by Xavier Otazu. Ph.D. thesis, Ediciones Graficas Rey, 2019.
14. Zhijie Fang. "Behavior understanding of vulnerable road users by 2D pose estimation". Edited by Antonio Lopez, and David Vazquez. Ph.D. thesis, Ediciones Graficas Rey, 2019.

9.2 Book Chapter (5)

1. Alicia Fornes, Josep Lladós, and Joana Maria Pujadas-Mora. "Browsing of the Social Network of the Past: Information Extraction from Population Manuscript Images". In *Handwritten Historical Document Analysis, Recognition, and Retrieval – State of the Art and Future Trends*, 2019.
2. Isabelle Guyon, Lisheng Sun Hosoya, Marc Boulle, Hugo Jair Escalante, Sergio Escalera, Zhengying Liu, Damir Jajetic, Bisakha Ray, Mehreen Saeed, Michele Sebag, Alexander R. Statnikov, Wei Wei Tu, Evelyne Viegas. "Analysis of the AutoML Challenge Series 2015-2018". In *Automated Machine Learning*, 177–219. SSCML. Springer, 2019.

3. Joana Maria Pujadas-Mora, Alicia Fornes, Josep Lladós, Gabriel Brea-Martínez, and Miquel Valls-Figols. "The Baix Llobregat (BALL) Demographic Database, between Historical Demography and Computer Vision (nineteenth–twentieth centuries)". In *Nominative Data in Demographic Research in the East and the West: monograph*, 29–61, 2019.
4. Raul Gomez, Lluís Gomez, Jaume Gibert, and Dimosthenis Karatzas. "Self-Supervised Learning from Web Data for Multimodal Retrieval". In *Multi-Modal Scene Understanding Book*, 279–306, 2019.
5. Sergio Escalera, Martí Soler, Stéphane Ayache, Umut Guçlu, Jun Wan, Meysam Madadi, Xavier Baro, Hugo Jair Escalante, and Isabelle Guyon. "ChaLearn Looking at People: Inpainting and Denoising Challenges". In *The Springer Series on Challenges in Machine Learning*, 23–44, 2019.

9.3 Journals with IF (45)

1. Aitor Alvarez Gila, Adrian Galdran, Estibaliz Garrote, and Joost van de Weijer. "Self-supervised blur detection from synthetically blurred scenes". *Image and Vision Computing* 92 (2019): 103804.
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3. Anjan Dutta, Pau Riba, Josep Lladós, and Alicia Fornes. "Hierarchical Stochastic Graphlet Embedding for Graph-based Pattern Recognition". *Neural Computing and Applications* (2019).
4. Arnau Baro, Pau Riba, Jorge Calvo-Zaragoza, and Alicia Fornes. "From Optical Music Recognition to Handwritten Music Recognition: a Baseline". *Pattern Recognition Letters* 123 (2019): 1–8.
5. Carola Figueroa Flores, Abel Gonzalez-Garcia, Joost van de Weijer, and Bogdan Raducanu. "Saliency for fine-grained object recognition in domains with scarce training data". *Pattern Recognition* 94 (2019): 62–73.
6. Cesar de Souza, Adrien Gaidon, Yohann Cabon, Naila Murray, and Antonio Lopez. "Generating Human Action Videos by Coupling 3D Game Engines and Probabilistic Graphical Models". *International Journal of Computer Vision* (2019).
7. Cristina Sanchez-Montes, F. Javier Sanchez, Jorge Bernal, Henry Cordova, Maria Lopez Ceron, Miriam Cuatrecasas, Cristina Rodriguez de Miguel, Ana Garcia Rodriguez, Rodrigo Garces Duran, Maria Pellise, Josep Llach, Gloria Fernandez Esparrach. "Computer-aided Prediction of Polyp Histology on White-Light Colonoscopy using Surface Pattern Analysis". *Endoscopy* 51, no. 3 (2019): 261–265.
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10. David Berga, Xavier Otazu, Xose R. Fernandez-Vidal, Victor Leboran, and Xose M. Pardo. "Generating Synthetic Images for Visual Attention Modeling". *Perception* 48 (2019): 99.
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12. Debora Gil, Antonio Esteban Lansaque, Agnes Borrás, and Carles Sanchez. "Enhancing virtual bronchoscopy with intra-operative data using a multi-objective GAN". *International Journal of Computer Assisted Radiology and Surgery* 7, no. 1 (2019).

13. Debora Gil, Carles Sanchez, Agnes Borrás, Marta Diez-Ferrer, and Antoni Rosell. "Segmentation of Distal Airways using Structural Analysis". *PloS one* 14, no. 12, e0226006, (2019).
14. Debora Gil, Ruth Aris, Agnes Borrás, Esmitt Ramirez, Rafael Sebastian, and Mariano Vazquez. "Influence of fiber connectivity in simulations of cardiac biomechanics". *International Journal of Computer Assisted Radiology and Surgery* 14, no. 1 (2019): 63–72.
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- Journal of Mathematical Imaging and Vision* 61, no. 3 (2019): 331–351.
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9.4 Journals (3)

1. Lasse Martensson, Ekta Vats, Anders Hast, and Alicia Fornes. "In Search of the Scribe: Letter Spotting as a Tool for Identifying Scribes in Large Handwritten Text Corpora". *Journal for Information Technology Studies as a Human Science* 14, no. 2 (2019): 95–120.
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3. Pedro Rodriguez, Jordi Gonzalez, Josep M. Gonfaus, Xavier Roca. "Integrating Vision and Language in Social Networks for Identifying Visual Patterns of Personality Traits". *International Journal of Social Science and Humanity*. Vol. 9(1), 6-12, 2019.

9.5 International Conference (61)

1. Ajian Liu, Jun Wan, Sergio Escalera, Hugo Jair Escalante, Zichang Tan, Qi Yuan, Kai Wang, Chi Lin, Guodong Guo, Isabelle Guyon, Stan Z.Li. "Multi-Modal Face Anti-Spoofing Attack Detection Challenge at CVPR2019". In *IEEE International Conference on Computer Vision and Pattern Recognition-Workshop*, 2019.
2. Alejandro Cartas, Jordi Luque, Petia Radeva, Carlos Segura, and Mariella Dimiccoli. "Seeing and Hearing Egocentric Actions: How Much Can We Learn?" In *IEEE International Conference on Computer Vision Workshops*, 4470–4480., 2019.
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10. Arnau Baro, Jialuo Chen, Alicia Fornes, and Beata Megyesi. "Towards a generic unsupervised method for transcription of encoded manuscripts". In *3rd International Conference on Digital Access to Textual Cultural Heritage*, 73–78., 2019.
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- Learning". In *13th IAPR International Workshop on Graphics Recognition*, 80–85., 2019.
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9.6 Abstracts (1)

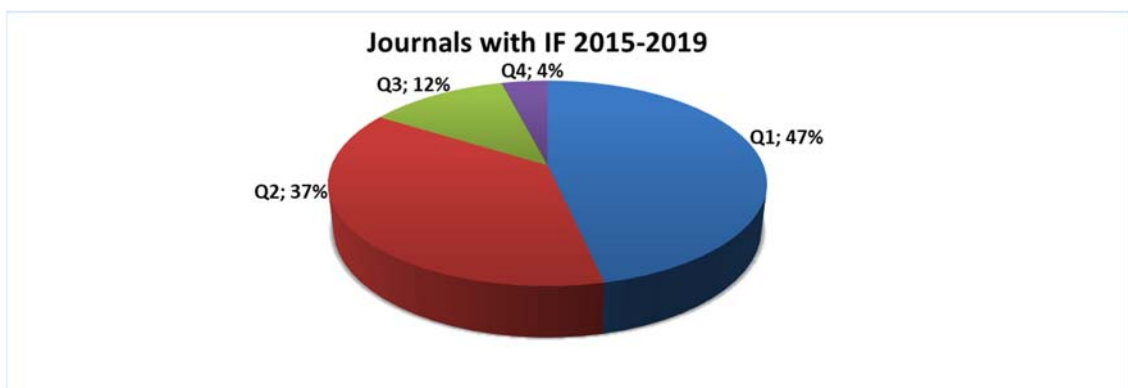
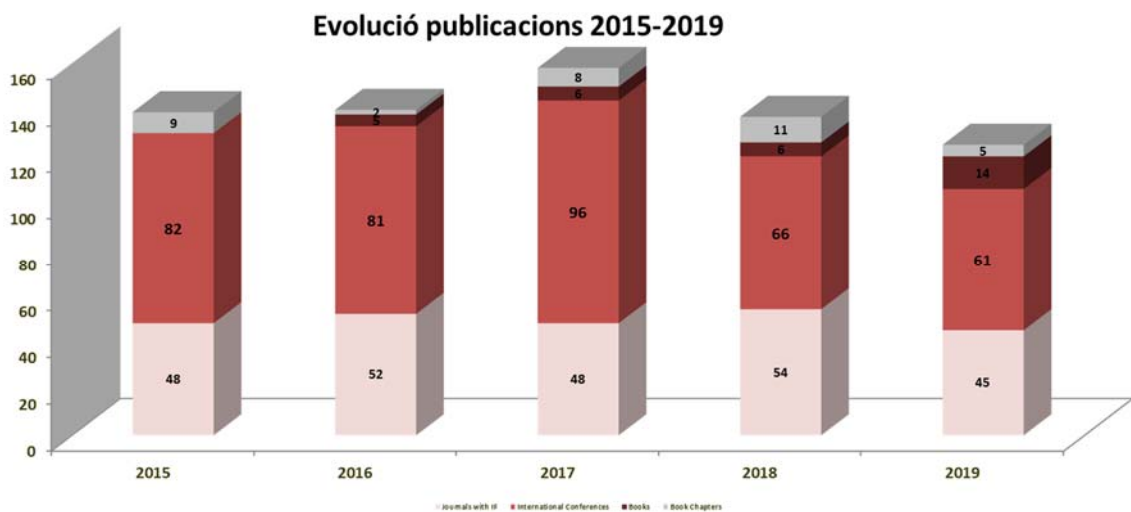
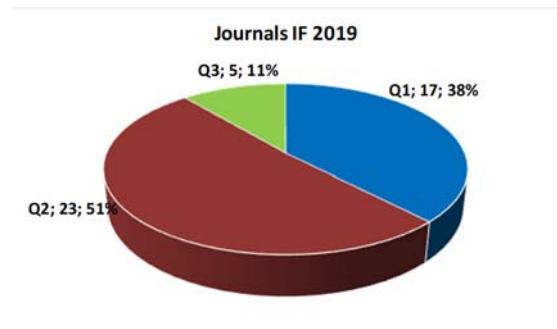
1. Debora Gil, and Antoni Rosell. "Advances in Artificial Intelligence – How Lung Cancer CT Screening Will Progress?", In *World Lung Cancer Conference.*, 2019.

9.7 Miscellanea (9)

1. Alejandro Cartas, Jordi Luque, Petia Radeva, Carlos Segura, and Mariella Dimiccoli. *How Much Does Audio Matter to Recognize Egocentric Object Interactions?*. In *arXiv*, 2019.
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3. Edgar Riba, Dmytro Mishkin, Daniel Ponsa, Ethan Rublee, and Gary Bradski. *Kornia: an Open Source Differentiable Computer Vision Library for PyTorch*. In *arXiv*, 2019.
4. Estefania Talavera, Alexandre Cola, Nicolai Petkov, and Petia Radeva. *Towards Egocentric Person Re-identification and Social Pattern Analysis*. In *arXiv*, 2019.
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6. Estefania Talavera, Petia Radeva, and Nicolai Petkov. *Towards Emotion Retrieval in Egocentric PhotoStream*. In *arXiv*, 2019.
7. Lei Kang, Pau Riba, Mauricio Villegas, Alicia Fornes, and Marçal Rusiñol. *Candidate Fusion: Integrating Language Modelling into a Sequence-to-Sequence Handwritten Word Recognition Architecture*. In *arXiv*, 2019.
8. Mariona Caros, Maite Garolera, Petia Radeva, and Xavier Giro. *Automatic Reminiscence Therapy for Dementia*. In *arXiv*, 2019.
9. Md. Mostafa Kamal Sarker, Hatem A. Rashwan, Mohamed Abdel-Nasser, Vivek Kumar Singh, Syeda Furruka Banu, Farhan Akram, Forhad U. H. Chowdhury, Kabir Ahmed Choudhury, Sylvie Chambon, Petia Radeva, Domenec Puig. *MobileGAN: Skin Lesion Segmentation Using a Lightweight Generative Adversarial Network*. In *arXiv*, 2019.

FACT SHEET – Publications

Publications 2019	Number
IF Journals	45
Journals	3
International Conferences	61
Books	14
Books Chapters	5
Miscellanea	9



10. Chairships and Organization of Conferences, Workshops and other research and dissemination activities

GastroIntestinal Image Analysis - GIANA 2019, Within the 14th International Joint Conference on Computer Vision, Imaging and Computer Graphics Theory and Applications - VISIGRAPP 2019

(co)Chair: **Dr. Jorge Bernal**

Place: Prague (Czech Republic)

Date: February 25 – 27, 2019

<http://www.visigrapp.org/GIANA.aspx?y=2019>

14th International Conference on Automatic Face and Gesture Recognition

Challenge Chair and Area (co) Chair: **Dr. Sergio Escalera**

Place: Lille (France)

Date: May 14-18, 2019

<http://fg2019.org/>

15th IEEE Workshop on Perception Beyond the Visible Spectrum, in conjunction with CVPR 2019

Program (co) Chair: **Dr. Angel Sappa**

Place: Long Beach, California (USA)

Date: June 16, 2019

<http://vcipl-okstate.org/pbvs/19/organization.html>

Carla Autonomous Driving Challenge, in conjunction with CVPR 2019

(co)Chair: **Dr. Antonio M. López**

Place: Long Beach, California (USA)

Date: June 16, 2019

<https://carlachallenge.org/>

Workshop on Autonomous Driving, in conjunction with CVPR

(co)Program Chair: **Dr. Antonio M. López**

Place: Long Beach, California (USA)

Date: June 17, 2019

<https://sites.google.com/view/wad2019/overview>

2019 Chalearn Looking at People Workshop, in conjunction with CVPR

(co)Organizer: **Dr. Sergio Escalera, Dr. Meysam Madadi**

Place: Long Beach, California (USA)

Date: June 17, 2019

<http://chalearnlap.cvc.uab.es/workshop/32/description/>

IJCNN 2019 Special Session on Machine Learning and Deep Learning Methods applied to Vision and Robotics (MLDLMVR)

(co)Organizer: **Dr. Sergio Escalera**

Place: Budapest (Hungary)

Date: July 14-19, 2019

<https://www.dtic.ua.es/~jgarcia/IJCNN2019/>

AutoCV - AutoDL Challenge, in International Joint Conference on Neural Networks, IJCNN 2019
(co)Organizer: **Dr. Sergio Escalera**
Place: Budapest (Hungary)
Date: July 14-19, 2019
<https://www.ijcnn.org/2019-competitions>

3rd Workshop on Digital Image Processing for Medical and Automotive Industry, in the framework of SYNASC 2019 - 21st International Symposium on Symbolic and Numeric Algorithms for Scientific Computing.
Scientific (co)Chair: **Dr. Debora Gil**
Place: Timisoara (Romania)
Date: September 4-7, 2019

30th British Machine Vision Conference (BMVC)
Area (co)Chair: **Dr. Joost van de Weijer, Dr. Sergio Escalera**
Place: Cardiff (UK)
Date: September 9-12, 2019

European Conference on Machine Learning and Principles and Practice of Knowledge Discovery in Databases (ECMLPPKDD)
Discovery Challenge (co)Chair: **Dr. Sergio Escalera**
Place: Würzburg (Germany)
Date: September 16-20, 2019
<https://ecmlpkdd2019.org/>

Auto CV2 Challenge, AutoDL Challenge, in European Conference on Machine Learning and Principles and Practice of Knowledge Discovery in Databases, ECMLPPKDD 2019
(co)Organizer: **Dr. Sergio Escalera, Dr. Albert Clapés**
Place: Würzburg (Germany)
Date: September 16-20, 2019
<https://ecmlpkdd2019.org/programme/discovery/>

15th International Conference on Document Analysis and Recognition ICDAR 2019
Tutorial (co)Chair: **Dr. Josep Lladós**
Area (co)Chair: **Dr. Dimosthenis Karatzas**
Place: Sidney (Australia)
Date: September 20-25, 2019
<http://icdar2019.org/>

2nd Future of Document Analysis and Recognition Workshop, in conjunction with ICDAR 2019
General (co)Chair: **Dr. Dimosthenis Karatzas**
Place: Sidney (Australia)
Date: September 21, 2019
<http://www.cvc.uab.es/fi2019/?c=home>

2nd International Workshop on Human-Document Interaction (HDI 2019), in conjunction with ICDAR 2019
General (co)Chair: **Dr. Dimosthenis Karatzas and Dr. Fernando Vilariño**
Date: September 22, 2019
<http://www.cvc.uab.es/hdi2019/?c=home>

The Eighth International Workshop on Camera-Based Document Analysis and Recognition (CBDAR 2019), in conjunction with ICDAR 2019

(co)Organizer: **Dr. Lluís Gómez**

Place: Sidney (Australia)

Date: September 22, 2019

<https://cbdar2019.univ-lr.fr/>

CIC27 – Twenty-seventh Color and imaging Conference

Technical Program (co)Chair: **Dr. Maria Vanrell**

Place: Paris (France)

Date: October 21-25, 2019

TASKCV-2019 - 6th annual Workshop Transferring and Adapting Source Knowledge in Computer Vision and VisDA Challenge, in conjunction with ICCV 2019

(co)Chair: **Dr. Antonio M. López**

Place: Seoul, Korea

Date: November 2, 2019.

<https://sites.google.com/view/task-cv2019/home>

Special Session on Autonomous Driving and Driver Assistance Systems, in ROBOT'2019: Fourth Iberian Robotics Conference

(co)Organizer: **Dr. Angel Sappa**

Place: Porto (Portugal)

Date: November 20-22, 2019

<https://web.fe.up.pt/~robot2019/index.php>

Deep Learning Barcelona Symposium 2019

(co)Chairs: **Dr. Sergio Escalera, Dr. Dimosthenis Karatzas, and Dr. Petia Radeva**

Place: Barcelona (Spain)

Date: December 19-20, 2019

<https://sites.google.com/view/dlbcn2019/inici>

11. Awards

Third world prize in the action recognition EPICs Challenge at CVPR 2019

Authors: Swathikiran Sudhakaran, **Dr. Sergio Escalera** and Dr. Oswald Lanz for the paper "*FBK-HUPBA Submission to the EPIC-Kitchens 2019 Action Recognition Challenge*"

VOT-RGBT winner, VOT 2019 Workshop, at ICCV 2019

Authors: **Lichao Zhang**, Martin Danelljan, **Dr. Abel Gonzalez-Garcia**, **Dr. Joost van de Weijer** and Fahad Shahbaz Khan, for the paper "*Multimodal fusion for end to end RGBT tracking*"

Best Thesis Award Academic year 2016-2017, Engineering School (UAB)

Germán Ros, "*Visual Scene Understanding for Autonomous Vehicles: Understanding Where and What*"

Supervisors: **Dr. Antonio M. López** (CVC-UAB), **Dr. Angel Sappa** (CVC), and Dr. Julio Guerrero (Universidad de Murcia)

Date: June 20, 2019

12. Editorships

- **Dr. Sergio Escalera**, Guest Editor Special Issue “Inpainting, Denoising, and Unsupervised Learning”, *IEEE Transactions on Pattern Analysis and Machine Intelligence*
- **Dr. Sergio Escalera**, Guest Editor Special Issue “Analyzing Human Behavior from Social Media Data”, *International Journal of Computer Vision IJCV*
- **Dr. Sergio Escalera**, Special Issue Editor “Statistical Machine Learning for Human Behaviour Analysis”, *Entropy*
- **Dr. Sergio Escalera**, Guest Editor Special Issue “Human Abnormal Behavioural Analysis”, *Machine Vision and Applications*
- **Dr. Dimosthenis Karatzas**, Associate Editor, *IPSN Transactions on Computer Vision and Applications*
- **Dr. Alicia Fornés**, Associate Editor, *Pattern Recognition*
- **Dr. Alicia Fornés**, Review Editor Cultural Heritage Digitization, *Frontiers in Digital Humanities, FDH*
- **Dr. Jordi González**, Area Editor of *Computer Vision and Image Understanding*
- **Dr. Jordi González**, Area Editor of *Computer Vision (IET)*
- **Dr. Dimosthenis Karatzas**, Associate Editor of *IPSN Transactions on Computer Vision and Applications*
- **Dr. Luis Herranz**, Guest Editor of Efficient Multimedia Processing Methods and Applications, *Multimedia Tools and Applications*, 78(1), 2019
- **Dr. Josep Lladós**, Associate Editor, *Pattern Recognition*
- **Dr. Josep Lladós**, Editor Board, *International Journal on Document Analysis and Recognition (IJ DAR)*
- **Dr. Josep Lladós**, Associate Editor Cultural Heritage Digitization, *Frontiers in Digital Humanities, FDH*
- **Dr. Josep Lladós**, Editor, *Series in Machine Perception and Artificial Intelligence (SMPAI)*
- **Dr. Josep Lladós**, Chief Editor of *ELCVIA – Electronic Letters on Computer Vision and Image Analysis*
- **Dr. Meysam Madadi**, Guest Editor Special Issue “Inpainting, Denoising, and Unsupervised Learning”, *IEEE Transactions on Pattern Analysis and Machine Intelligence*
- **Dr. Xavier Otazu**, Editor of the Research Topic “Integrating Visual System Mechanisms

- **Dr. Xavier Otazu**, Computational Models and Algorithms/Technologies”, *Frontiers in Neuroscience, Frontiers in Computational Neuroscience, Frontiers in Bioengineering and Biotechnology*
- **Dr. Xavier Otazu**, Executive Editor of *ELCVIA – Electronic Letters on Computer Vision and Image Analysis*
- **Dr. Alejandro Párraga**, Review Editor for Perception Science, *Frontiers in Neuroscience, Frontiers in Psychology*
- **Dr. Petia Radeva**, Associate Editor, *Pattern Recognition*
- **Dr. Xavier Roca**, Associate Editor of *Image and Vision Computing*
- **Dr. Angel Sappa**, Editor Special Issue on Autonomous Driving and Driver Assistance Systems, *Robotics and Autonomous Systems*, vol 121 (2019)
- **Dr. Angel Sappa**, Executive Editor of *ELCVIA – Electronic Letters on Computer Vision and Image Analysis*
- **Dr. Ernest Valveny**, Editor Board, *International Journal on Document Analysis and Recognition (IJ DAR)*
- **Dr. Joost van de Weijer**, Area Editor of Computer Vision and Image Understanding

13. Service to the Community

- **Dr. Sergio Escalera**
 - Chair of IAPR Technical Committee 12 “Multimedia and visual information systems”, (2018-2020)

- **Dr. Alicia Fornés**
 - Chair of the IAPR Technical Committee 10 “Graphics Recognition”, (2018-2020)
 - Scientific coordinator of the Digital Humanities Research Network of the UAB (2016-2019).

- **Dr. Dimosthenis Karatzas**
 - Chair of the IAPR Technical Committee 11 “Reading Systems”, (2018 - 2020)
 - Member of IAPR Education Committee (2018 – 2020)

- **Dr. Josep Lladós**
 - Chair of IAPR Education Committee (2018-2020)
 - Member of the IAPR Industrial Liaison Committee (2018-2020)

- **Dr. Petia Radeva**
 - Member of the IAPR Fellow Committee (2018-2020)

- **Dr. Maria Vanrell,**
 - CIC Steering Committee, 2019.
 - Vice-president Society for Imaging Science and Technology, 2019-2021.