

| Part A. PERSONAL INFORMATION         |                                                                                         | CV date             |    | 06-10-2022 |
|--------------------------------------|-----------------------------------------------------------------------------------------|---------------------|----|------------|
| First and Family name                | Antoni Jaume i Capó                                                                     |                     |    |            |
| Social Security, Passport, ID number | 43103829N                                                                               | Age                 | 43 |            |
| Researcher codes                     | WoS Researcher ID (*)                                                                   | I-4053-2015         |    |            |
|                                      | SCOPUS Author ID(*)                                                                     | 24512130000         |    |            |
|                                      | Open Researcher and Contributor ID (ORCID) **                                           | 0000-0003-3312-5347 |    |            |
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### A.1. Current position

|                                |                                                                                                                                                                             |        |                                                              |
|--------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|--------------------------------------------------------------|
| Name of University/Institution | University of the Balearic Islands                                                                                                                                          |        |                                                              |
| Department                     | Department of Mathematics and Computer Science                                                                                                                              |        |                                                              |
| Address and Country            | E07122, Palma, Illes Balears, Spain                                                                                                                                         |        |                                                              |
| Phone number                   | 971173245                                                                                                                                                                   | E-mail | <a href="mailto:antoni.jaume@uib.es">antoni.jaume@uib.es</a> |
| Current position               | Associate Professor                                                                                                                                                         | From   | 19/03/2019                                                   |
| Key words                      | Artificial Intelligence, Explainable Artificial Intelligence, Computer Vision, Vision-based Interaction, Medical Image Processing, Motor Rehabilitation, Diagnostic Support |        |                                                              |

### A.2. Education

| PhD                                           | University                         | Year |
|-----------------------------------------------|------------------------------------|------|
| PhD in Computer Science with European mention | University of the Balearic Islands | 2009 |

### A.3. JCR articles, h Index, thesis supervised...

23 JCR articles.

2 research sexennium (01/01/2008 - 31/12/2013, 01/01/2014 – 31/12/2019). Active until 31/12/2025.

3 Supervised PhD (plus 2 in progress).

Two research prizes.

Principal Investigator of 11 projects.

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

I started my research and teaching career in 2004 and I received PhD in Computer Engineering with European mention in 2009. My research line is focused on artificial intelligence, concretely vision-based systems for motor rehabilitation and for medical image analysis. I am associate professor at the University of the Balearic Islands.

I have an extensive experience in artificial intelligence systems for health and well-being, concretely in vision-based interactive systems for postural control and balance rehabilitation, and in microscopic image analysis for diagnostic support using computer vision.

In relation to my research, I have edited 2 research books, I am author of 23 JCR articles, 9 SJR articles, and 4 technical reports. I have also been editor of 2 special issues, I have participated in 13 congresses, and I have been invited keynote speaker in 7 conferences. I have participated in 29 research projects (4 EU, 20 nationals, 6 regionals) and in 11 of them I have been the principal investigator. I have 5 technological transfers with companies and 2 datasets. I did 8 research stages in international centers. I supervised 3 PhD and at this moment I am supervising 2 more. I have also supervised 7 foreigners doctorate students, 6

master thesis and 13 grade thesis. I received the best communication award at ENACTIVE 2005. I assisted a 44 congresses and conference, and I have been reviewer for 16 journals and conferences. I have obtained 2 research sexennium, the research supplement and the research excellence supplement.

## Part C. RELEVANT MERITS

### C.1. Publications

1. Marrero-Fernandez, P.D., Buades-Rubio, J.M., **Jaume-i-Capó, A.**, Ren, T.I. (2022). An Approach for Selecting the Most Explanatory Features for Facial Expression Recognition. *Applied Sciences*. <https://doi.org/10.3390/app12115637> (JCR Q2)
2. Miró-Nicolau, M., Moyà-Alcover, G., & Jaume-i-Capó, A. (2022). Evaluating Explainable Artificial Intelligence for X-ray Image Analysis. *Applied Sciences*. <https://doi.org/10.3390/app12094459> (JCR Q2).
3. Galmes, B., Moyà, B., Bibiloni, P., Varona, J., & Jaume-i-Capó, A. (2022). Geometric-Based nail Segmentation for Clinical Measurements. *Multimedia Tools and Applications* <https://doi.org/10.1007/s11042-022-12234-2> (JCR Q2).
4. Ayed, I., Jaume-i-Capó, A., Martínez-Bueso, P., Mir, A., & Moya-Alcover, G. (2021). Balance Measurement Using Microsoft Kinect v2: Towards Remote Evaluation of Patient with the Functional Reach Test. *Applied Sciences*. <https://doi.org/10.3390/app11136073> (JCR Q2).
5. Petrović, N., Moyà-Alcover, G., Jaume-i-Capó, A., & González-Hidalgo, M. (2020). Sick cell disease diagnosis support selecting the most appropriate machine learning method: Towards a general and interpretable approach for cell morphology analysis from microscopy images. *Computers in Biology and Medicine*. <https://doi.org/10.1016/j.compbiomed.2020.104027> (JCR Q1).
6. Delgado-Font, W., Escobedo-Nicot, M., González-Hidalgo, M., Herold-Garcia, S., Jaume-i-Capó, & A., Mir, A. (2020). Diagnosis Support of Sick Cell Anemia by Classifying Red Blood Cell Shape in Peripheral Blood Images. *Medical & Biological Engineering & Computing*. <https://doi.org/10.1007/s11517-019-02085-9> (JCR Q2).
7. Ayed, I., Ghazel, A., Jaume-i-Capó, A., Moya-Alcover, G., Varona, J., & Martínez-Bueso, P. (2019). Vision-Based Serious Games and Virtual Reality Systems for Motor Rehabilitation: A Review Geared Toward a Research Methodology. *International Journal of Medical Informatics*. <https://doi.org/10.1016/j.ijmedinf.2019.06.016> (JCR Q2).
8. Alcover, E. A., Jaume-i-Capó, A., & Moyà-Alcover, B. (2018). PROGame: A process framework for serious game development for motor rehabilitation therapy. *PloS one*. <http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0197383> (JCR Q2).
9. Moyà-Alcover, G., Elgammal, A., Jaume-i-Capó, A., & Varona, J. (2017). Modeling depth for nonparametric foreground segmentation using RGBD devices. *Pattern Recognition Letters*. <https://doi.org/10.1016/j.patrec.2016.09.004> (JCR Q2).
10. González-Hidalgo, M., Guerrero-Pena, F. A., Herold-Garcia, S., Jaume-i-Capó, A., & Marrero-Fernandez, P. D. (2015). Red blood cell cluster separation from digital images for use in sickle cell disease. *IEEE journal of biomedical and health informatics*. <https://doi.org/10.1109/JBHI.2014.2356402> (JCR Q1).
11. Jaume-i-Capó, A., Martinez-Bueso, P., Moyà-Alcover, B., & Varona, J. (2014). Interactive rehabilitation system for improvement of balance therapies in people with cerebral palsy. *IEEE transactions on neural systems and rehabilitation engineering*. <https://doi.org/10.1109/TNSRE.2013.2279155> (JCR Q1).

### C.2. Research projects and grants

1. PID2019-104829RA-I00 EXPLainable Artificial INtelligence systems for health and well-being, AEI 2019, IP Antoni Jaume-i-Capó & Cristina Manresa-Yee, Universitat de les Illes Balears, 01/06/2020-31/05/2023, 87967€, Investigador Principal.
2. CA19130 Fintech and Artificial Intelligence in Finance - Towards a transparent financial industry, European Union 2020, IP Jörg Osterrieder, Zurich University of Applied Sciences, 14/09/2020- 13/09/2024, Investigador.
3. PROCOE/2/2017 Investigación y desarrollo de un nuevo método y herramienta de procesamiento automático de imágenes en el ámbito clínico, Govern de les Illes Balears 2017, IP Gabriel Moyà-Alcover, Universitat de les Illes Balears, 22/12/2017-22/12/2020, 37422€, Investigador.
4. TIN2016-81143-R Evaluación implícita de sistemas interactivos en contextos de salud y bienestar, MINECO 2016, IP Javier Varona, Universitat de les Illes Balears, 30/12/2016-29/06/2020. 107085€, Investigador.
5. CA15124 A new Network of European BioImage Analysts to advance life science imaging, European Union 2016, IP Julien Colombelli, IRB Barcelona, 30/05/2016-02/05/2020, Investigador.
6. OCDS-CUD2014/02 Técnicas de procesamiento y análisis de imágenes como apoyo en el diagnóstico de la sickleemia y los trastornos neurofisiológicos asociados y herramienta web para que los internautas cooperen en el diagnóstico de la sickleemia, Govern de les Illes Balears 2014, IP Antoni Jaume-i-Capó, Universitat de les Illes Balears, 30/09/2014-30/09/2018, 28572,64€, Investigador Principal.
7. TIN2012-35427 Experiencias de diseño y desarrollo de interfaces naturales en industria, educación y rehabilitación, MINECO 2012, IP Javier Varona, Universitat de les Illes Balears, 01/01/2013-31/12/2016, 22230€, Investigador.
8. A2/037538/11 Formación de recursos humanos para el desarrollo de actividades docentes, investigativas y laborales en aplicación de técnicas computacionales, especialmente la visión computacional, para la rehabilitación. Gobierno de España, IP Antoni Jaume-i-Capó, Universitat de les Illes Balears, 2011-2013, 65520€, Investigador Principal.
9. TIN2010-16576 Modelos de Interacción basada en Visión en Interfaces Gestuales, MICINN 2010, IP Javier Varona, Universitat de les Illes Balears, 01/01/2011-31/12/2012, 12100€, Investigador.
10. A/023109/09Aplicaciones basadas en visión para la rehabilitación. Gobierno de España, IP Antoni Jaume-i-Capó, Universitat de les Illes Balears. 2009-2012, 61800€, Investigador Principal.

### **C.3. Contracts and transfers**

1. Consultancy on technological innovation FI Group I+D+i DL, from 15/05/2019.
2. Consultancy on a research project for the evaluation of the onychomycosis nail PI: Antoni Jaume-i-Capó (University of the Balearic Islands). Syntax for Science S.L. 10/02/2017-30/07/2017. 10890€.
3. GSM Dataset (<http://gsm.uib.es/>). Coordinator Gabriel Moyà-Alcover (University of the Balearic Islands). From 21/09/2006. Transferred to 8 research centers.
4. Dataset erythrocytesIDB (<http://erythrocytesidb.uib.es>). Coordinator: Antoni Jaume-i-Capó (University of the Balearic Islands). From 01/10/2014. Transferred to 21 research centers.
5. Technological Transfer. Transfer of a game to prevent and mitigate the degradation of balance and postural control to ABDEM. AN 9918/2011.15/07/2013-15/07/2019. PI: Antoni Jaume-i-Capó.

6. Technological Transfer. Transfer of a game to prevent and mitigate the degradation of balance and postural control to ASPACE. AN 9918/2011.15/07/2013-15/07/2019. PI: Antoni Jaume-i-Capó.
7. PA8REHAB810709, Interaction plugin based on the detection of human movement in two dimensions from images. PI: Javier Varona (University of the Balearic Islands). IBIT Foundation (Illes Balears Innovación Tecnológica). 10/02/2010-31/07/2010. 18137.92€. Researcher.