Teaching Guide				
Identifying Data				2023/24
Subject (*)	Human Action Recognition		Code	614535006
Study programme	Máster Universitario en Visión por Computador			
Descriptors				
Cycle	Period	Year	Type	Credits
Official Master's Degree	2nd four-month period	First	Optional	3
Language	English			
Teaching method	Hybrid			
Prerequisites				
Department	Ciencias da Computación e Tecnoloxías da Información			
Coordinador	Ortega Hortas, Marcos	E-mail	m.ortega@udc.es	
Lecturers	Ortega Hortas, Marcos Ramos García, Lucia	E-mail	m.ortega@udc.es l.ramos@udc.es	
Web				
General description				

Study programme competences	
Code	Study programme competences
A2	CE2 - To know and apply machine learning and pattern recognition techniques applied to computer vision
A3	CE3 - To know and apply the concepts, methodologies and technologies of image and video analysis
A4	CE4 - To conceive, develop and evaluate complex computer vision systems
A9	CE9 - To know and apply the concepts, methodologies and technologies for the recognition of visual patterns in real scenes
B3	CB8 - That students are able to integrate knowledge and deal with the complexity of making judgements based on information that is incomplete or limited, including reflections on social and ethical responsibilities linked to the application of their knowledge and judgements
B7	CG2 - Ability to analyze a company's needs in the field of computer vision and determine the best technological solution for it
B11	CG6 - Ability to identify theoretical results or new technologies with innovative potential and convert them into products and services useful to society
B12	CG7 - Ability to learn autonomously for specialization in one or more fields of study
C3	CT3 - Development of the innovative and entrepreneurial spirit

Learning outcomes			
Learning outcomes	Study programme competences		
Knowledge of recognition techniques applied to the recognition of people, and body parts.	AC2 AC3 AC4 AC9	BC3 BC7 BC11 BC12	CC3
Analysis and evaluation of human action recognition applications	AC2 AC3 AC4 AC9	BC3 BC7 BC11 BC12	CC3
Development of tools based on advanced technologies for recognition of human actions	AC2 AC3 AC4 AC9	BC3 BC7 BC11 BC12	CC3

Contents	
Topic	Sub-topic
Detection and tracking of people.	

Detection and monitoring of faces, extremities, and other features of interest.	
Recognition of postural and behavioral patterns.	
Applications of the recognition of human actions.	

Planning				
Methodologies / tests	Competencies	Ordinary class hours	Student?s personal work hours	Total hours
Laboratory practice	A4 A9 B3	6	21	27
Supervised projects	B7 B11 C3	4	12	16
Guest lecture / keynote speech	A2 A3 B12	11	18	29
Personalized attention		3	0	3
(*)The information in the planning table is for guidance only and does not take into account the heterogeneity of the students.				

Methodologies	
Methodologies	Description
Laboratory practice	Practice in computer classrooms, learning based on the resolution of practical cases, combining work and autonomous learning with group work for cooperative learning
Supervised projects	Realization of presentations of project-oriented work
Guest lecture / keynote speech	Participatory master classes

Personalized attention	
Methodologies	Description
Supervised projects Laboratory practice	Attention to the challenges that are exposed to the students both in the practices and in the works exposed to us.

Assessment			
Methodologies	Competencies	Description	Qualification
Guest lecture / keynote speech	A2 A3 B12	Demonstration of application of knowledge taught in class	30
Supervised projects	B7 B11 C3	Practical projects related to the subject	40
Laboratory practice	A4 A9 B3	Applied case development practices	30

Assessment comments

Sources of information	
Basic	I.-O. Stathopoulou, G.A. Tsihrintzis. "Visual Affect Recognition", IOS Press, 2010. ISBN:978-I-60750-596-9. Premaratne, P. "Human Computer Interaction Using Hand Gestures". Springer 2014. ISBN: 978-981-4585-68-2. Gong, S.; Xiang, T. "Visual Analysis of Behaviour: From pixels to semantics". Springer 2011. ISBN: 978-0-85729-669-6. Moeslund, T.B.; Hilton, A.; Krüger, V.; Sigal, L. (Eds.), "Visual Analysis of Humans: Looking at people". Springer, 2011. ISBN: 978-0-85729-996-3. Salah, A.A.; Gevers, T. (Eds.), "Computer Analysis of Human Behavior". Springer, 2011. ISBN: 978-0-85729-993-2. Murino, V.; Cristani, M.; Shah, S.; Savarese, S. "Group and Crowd Behavior for Computer Vision". 2017. ISBN: 9780128092767.
Complementary	

Recommendations
Subjects that it is recommended to have taken before

Fundamentals of Machine Learning for Computer Vision /614535007 Fundamentals of Image Processing and Analysis /614535001 Image Description and Modeling/614535004
Subjects that are recommended to be taken simultaneously
Visual Recognition/614535005
Subjects that continue the syllabus
Other comments

(*)The teaching guide is the document in which the URV publishes the information about all its courses. It is a public document and cannot be modified. Only in exceptional cases can it be revised by the competent agent or duly revised so that it is in line with current legislation.