UAB
Universitat Autònoma de Barcelona

Artificial Intelligence in Communication

Code: 106672
ECTS Credits: 6

Degree	Type	Year	Semester
2503873 Interactive Communication	OT	4	1

Contact

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Use of Languages

Principal working language: catalan (cat)

Some groups entirely in English: No

Some groups entirely in Catalan: Yes

Some groups entirely in Spanish: No

Prerequisites

To be able to take this subject it is necessary to have basic knowledge of the English language to face the readin

Objectives and Contextualisation

Have an overview but complete of what is artificial intelligence, its possibilities and the application of these techn

1. Study, analysis and theory of artificial intelligence systems.
2. Machine learning, deep learning and data science.
3. Deep fakes.
4. Ethical principles, algorithms and biases.
5. Application of artificial intelligence systems to communicative spaces (

Competences

- Act with ethical responsibility and respect for fundamental rights and duties, diversity and democratic values.
- Act within one's own area of knowledge, evaluating sex/gender-based inequalities.
- Determine and plan the technological infrastructure necessary for the creation, storage, analysis and distribution of interactive multimedia and social-networking products.
- Introduce changes in the methods and processes of the field of knowledge to provide innovative responses to the needs and demands of society.

- Manage time efficiently and plan for short-, medium- and long-term tasks.
- Promote and launch new products and services based on massive-scale mining and analysis of data from the Media.
- Search for, select and rank any type of source and document that is useful for creating messages, academic papers, presentations, etc.
- Students must be capable of applying their knowledge to their work or vocation in a professional way and they should have building arguments and problem resolution skills within their area of study.
- Students must be capable of communicating information, ideas, problems and solutions to both specialised and non-specialised audiences.
- Students must develop the necessary learning skills to undertake further training with a high degree of autonomy.
- Take account of social, economic and environmental impacts when operating within one's own area of knowledge.

Learning Outcomes

1. Analyse a situation and identify its points for improvement.
2. Communicate using language that is not sexist or discriminatory.
3. Critically analyse the principles, values and procedures that govern the exercise of the profession.
4. Cross-check information to establish its veracity, using evaluation criteria.
5. Describe the infrastructure needed to store big data.
6. Differentiate between the various types of existing architectures for working with big data.
7. Distinguish the salient features in all types of documents within the subject.
8. Evaluate the impact of problems, prejudices and discrimination that could be included in actions and projects in the short or medium term in relation to certain people or groups.
9. Explain the characteristics of the infrastructure needed to recover big data.
10. Explain the explicit or implicit deontological code in your area of knowledge.
11. Explain the infrastructure needed to process big data.
12. Extract large volumes of data from social networks and the new digital media in particular.
13. Identify situations in which a change or improvement is needed.
14. Identify the social, economic and environmental implications of academic and professional activities within one's own area of knowledge.
15. Plan and execute academic projects in the field of big data.
16. Propose new methods or well-founded alternative solutions.
17. Propose projects and actions that are in accordance with the principles of ethical responsibility and respect for fundamental rights and obligations, diversity and democratic values.
18. Propose projects and actions that incorporate the gender perspective.
19. Propose viable projects and actions to boost social, economic and environmental benefits.
20. Share experiences with the group as a path to learning, in order to work subsequently in multidisciplinary groups.
21. Solve basic problems in big data.
22. Submit course assignments on time, showing the individual and/or group planning involved.
23. Weigh up the risks and opportunities of both one's own and other people's proposals for improvement.

Content

1. What is artificial intelligence (AI) and its characteristics
2. Data collection processes
   2.1 Big Data: data generation
   2.2 Sources
3. Introduction to different AI techniques
   3.1 Data processing and application of algorithms
   3.2 AI techniques
   3.3 Results and interpretation of data for decision making
4. New horizons, as AI allows the creation of new content in communicat

4.1 video creation
4.2 text creation
4.3 image creation
4.4 to creativity

Methodology

The acquisition of knowledge will be done through various methodological procedures that include different types
In the theoretical sessions, the contents of the program will be presented
As for the practices, they will be used to apply in real cases the knowledg
The detailed calendar and content of the different sessions will be preser
Note: 15 minutes of a class will be reserved, within the calendar establish

Annotation: Within the schedule set by the centre or degree programme, 15 minutes of one class will be
reserved for students to evaluate their lecturers and their courses or modules through questionnaires.

Activities

Title	Hours	ECTS	Learning Outcomes
Type: Directed			
Laboratory practices	12	0.48	1, 20, 12, 14, 13, 15, 23, 16, 19, 21
Master classes with ICT support	15	0.6	3, 1, 5, 6, 10, 11, 9, 14, 13, 8
Seminars	21	0.84	3, 1, 2, 4, 7, 14, 13, 23, 22, 16, 17, 18, 19, 8
Type: Supervised			
Theoric exam	3	0.12	3, 5, 6, 10, 14, 21, 8
Tutorials (individual or group face-to-face activity aimed at solving learning problems)	10	0.4	1, 2, 7, 13, 22
Type: Autonomous			
Study: Reading and synthesis of scientific documents	56	2.24	3, 1, 6, 14, 13, 17, 8

Assessment

The competencies of this subject are evaluated with different activities:
- Theoretical test (40% of the final grade)
- Group practice presentations (40% of the final grade)
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Delivery of individual works (20% of the final mark)
The final grade will be the sum of the score obtained in each of these par
It is essential to take the three assessment tests to pass the subject.
The weighting of the three evaluable parts will be done, even if one of the
The evaluation system of this subject corresponds to continuous evaluati

OPTIONAL RECOVERY SYSTEM:
Students will be entitled to retake the subject only if they have been asse
The maximum mark in the recovered laboratory practices will be 5 out of
The mark obtained in the recovery of the written test will be the final marl
Attendance: Attendance at seminar classes and laboratory practices is m

In the event that the student performs any irregularity that may lead to a significant variation of an evaluation act,
The proposed teaching methodology and assessment may be subject to

Assessment Activities

Title	Weighting	Hours	ECTS	Learning Outcomes
Delivery of individual works	20%	15	0.6	20, 4, 5, 7, 6, 11, 9, 12, 13, 23, 22, 16, 17, 18, 19, 21
Group practice presentations	40%	15	0.6	1, 20, 2, 5, 6, 11, 9, 12, 13, 15, 16, 19
Theoric exam	40%	3	0.12	3, 4, 5, 6, 10, 14, 21, 8

Bibliography

Alonso, Amparo y Bonillo, Vicente, Fundamentos de inteligencia artificial, Universidade da Coruña, 1998.

Escolano, Francisco [et al.]. Inteligencia Artificial: modelos, técnicas y áreas de aplicación. Madrid Thomson. 2003.

Latorre, josé Ignacio. Ética para máquinas, Ariel, 2019.

Penrose, Roger, La nueva mente del emperador, Mondadodi, 1991.

Russell, S., Norvig, P. "Inteligencia Artificial". Ed. Plaza Edición, 2004.

Ryszard S. Michalski, Jaime G. Carbonell y Tom M. Mitchell. Machine Learning: An Artificial Intelligence Approach, Morgan Kaufmann. 2014.

Software

Code-oriented text editor