

Guia docent

300110 - STCAPAI - Intel·ligència Artificial Aplicada

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Unitat responsable: Escola d'Enginyeria de Telecomunicació i Aeroespacial de Castelldefels
Unitat que imparteix: **Titulació:** MÀSTER UNIVERSITARI EN INTEL·LIGÈNCIA ARTIFICIAL PER A INDÚSTRIES CONNECTADES (AI4CI) (Pla 2025). (Assignatura optativa).
Curs: 2026 **Crèdits ECTS:** 3.0 **Idiomes:** Anglès

PROFESSORAT

Professorat responsable: Daniele Mioriandi (Affliant)

Altres: Daniele Mioriandi (Affliant)

CAPACITATS PRÈVIES

Working knowledge of Python.
Working knowledge of standard Python ML/DL libraries (sklearn, pytorch).
Understanding of core ML/DL concepts (model, methods, training, performance evaluation, overfitting etc.).

REQUISITS

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METODOLOGIES DOCENTS

Lectures, assignment, autonomous work, project

OBJECTIUS D'APRENENTATGE DE L'ASSIGNATURA

This course introduces students to the practical applications of artificial intelligence (AI) across various industrial domains. Through a combination of lectures, hands-on projects, and case studies, students will gain the knowledge and skills necessary to develop and deploy AI solutions to solve real-world problems. Topics covered will include AI models and methods, practices for operating ML-powered solutions, usage of LLMs and ethical considerations in AI.

HORES TOTALS DE DEDICACIÓ DE L'ESTUDIANTAT

Tipus	Hores	Percentatge
Hores aprenentatge autònom	48,0	64.00
Hores grup gran	27,0	36.00

Dedicació total: 75 h

CONTINGUTS

Applied Artificial Intelligence

Descripció:

The course covers the following topics:

1- Introduction to Applied Artificial Intelligence

Overview of AI applications in different industries.

Ethical considerations and responsible AI practices.

2- Brief recap: Foundations of Machine Learning/Deep Learning

Supervised, unsupervised, and reinforcement learning.

Classification, regression, forecasting.

Training, fine tuning and overfitting.

Performance evaluation of ML/DL models.

3- Domains: computer vision, natural language processing, sequential data.

AI Deployment and Integration

Model deployment strategies.

Introduction to cloud-based AI services.

Integrating AI models into applications and systems.

4- Case Studies and Project Work

Analysis of real-world AI applications across industries.

Team project: Design and implementation of an AI solution for a specific use case.

5- Project Presentation and Wrap-Up.

Final project presentations by student groups.

6- Reflection on key learnings and future directions in applied AI.

Dedicació: 75h

Grup gran/Teoria: 27h

Aprenentatge autònom: 48h

SISTEMA DE QUALIFICACIÓ

Project work; a project assignment to perform after the STC execution will also be evaluated.