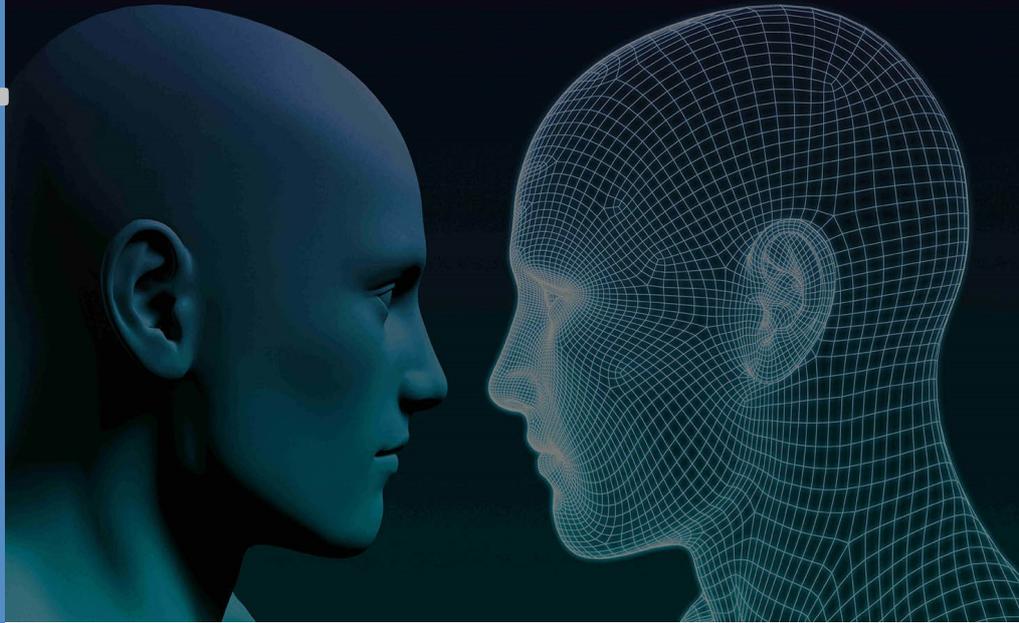# MAI & DL

Master in Artificial Intelligence and Deep Learning

13th edition. May. Fully Online

Universidad de Alcalá

VENUE

FULLY ONLINE

LENGTH

May 2024 -
March 2025

FEE

5,900 € *

SCHOLARSHIPS

The University of Alcalá offers scholarships and flexible payment options

Specialize in ARTIFICIAL INTELLIGENCE & DEEP LEARNING.

The master in Artificial Intelligence and Deep Learning provides the tools to understand how Machine Intelligence works as well as to put into perspective the impact of artificial sensing, cognition and action in areas such as Finance, Engineering or Arts.

The **objetives of the Master in Artificial Intelligence and Deep Learning** consist on:

- Understanding the formal foundations of Machine Learning and its implications in human-machine interactions.

- Learning how to use high level languages in order to develop real applications based on AI as well as understanding the problems in implementing such applications in practice.

- Guiding the proposal of AI-based solutions, considering the ethical and legal aspects and the economic and social implications.

What do we offer?

- Our Master in Artificial Intelligence and Deep Learning allows you to make your training **COMPATIBLE WITH YOUR WORK** thanks to an innovative learning methodology.

- A **SOUND PREPARATION** for a total of **60 ECTS credits,** which allows to cover in depth all the concepts and applications.

- A **METHODOLOGY** focussed on practice and context, using cases, real situations and technological tools that allow you to learn from the beginning.

- An **UPDATED CURRICULUM,** which ensures that our students are obtaining the latest knowledge in line with the trends and demands of Society.

- The **professors** of the Master in Artificial Intelligence and Deep Learning have a mean practical experience of 15 years in the area of Artificial Intelligence. Most of them have a Ph.D.

Programme

Artificial Intelligence and Deep Learning

History and Evolution of Artificial Intelligence.
Supervised, unsupervised and reinforced Learning.
Foundations of Machine Learning
Machine Learning Paradigms
Extensions

Python for Machine Learning

Arrays, matrices and vectors.
Graphics.
Program flow management.
Interfaces and data loading.
Programming exercises.

Computer Vision

Introduction to CNN
CNN architectures.
Object detection and semantic segmentation.
CNN for image generation

Sequential Networks and NLP

Sequential and time series problems.
Recurrent networks.
LSTM models and GRU models
Applications to Natural Languaje Processing

Genetic Algorithms and Evolutionary Computation

Introduction to Evolutionary Computation
Programming an Evolutionary Algorithm
Introduction to Genetic Programming
Genetic Programming: Finding the Hidden Function
Evolutionary Machine Learning

Unsupervised and Reinforced Learning

Introductions to unsupervised Learning
Association rules and Recommendation systems
Advanced Clustering
Introduction to reinforcement Learning
Markov decision process
OpenAI GYM

Augmented Intelligence and Human Machine Interaction

Cognitive Theories.
Interaction design.
Data and AI Ethics

Seminars

Seminars on applications of Deep Learning to the different fields

MASTER'S THESIS

Independent research paper performed by the student on one of the topics of the Master. The paper needs to be presented and defended against a Committee at the end of the Master

Participant Profile

The **Master in Artificial Intelligence and Deep Learning** targets both professionals and graduates interested on understanding the foundations and implications of Artificial Intelligence and Deep Learning in Business, Art, and Society.

Our graduated students come from **diverse countries** such as United Kingdom, Australia, United Arab Emirates, India, Netherlands, China, Germany, Saudi Arabia, Italy, Spain, Colombia, or Mexico among others.

Our students work in companies such as **Nokia, Cisco, IBM, Phillips, Indra, HSBC, Google, Accenture, Omron, Roche, Telefonica, BBVA** and **Oracle,** among others.

+ Information

To request further information to start your admission process, please contact our Admissions Department.

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