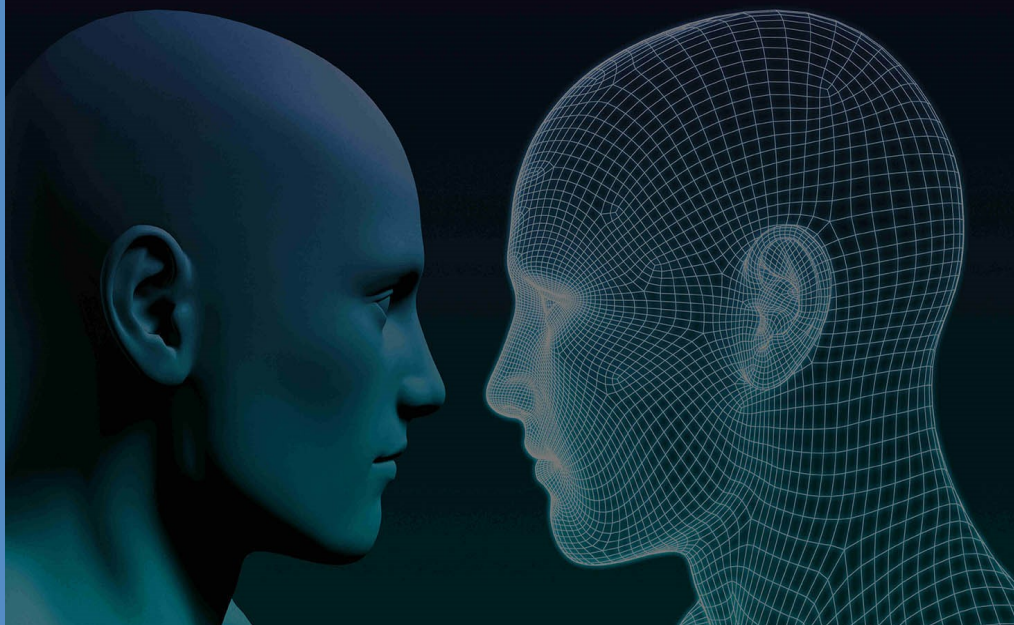


MAI & DL

Master in Artificial Intelligence and Deep Learning

Ninth edition. In English. Fully Online



VENUE

FULLY ONLINE

LENGTH

November 2022 -
September 2023

FEE

5,900 € *

SCHOLARSHIPS

The University of Alcalá offers scholarships and flexible payment options

Specialize in ARTIFICIAL INTELLIGENCE & DEEP LEARNING.

The **Postgraduate course** 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 **objectives 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

Programming in Python

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

Artificial Intelligence and Machine Learning

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

Deep Learning

- Introduction to Deep Learning
- Feed-Forward single-layer networks.
- Multilayer Networks.
- Hyper-parameters and learning strategies
- Applications in Keras

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 Language 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

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.

masterai@uah.es

www.master-artificialintelligence.com