

Máster online 100%

Master in Artificial Intelligence. Management and Implementation of Models + 60 ECTS Credits

Structuralia

Máster online 100%

Master in Artificial Intelligence. Management and Implementation of Models + 60 ECTS Credits

Modality
Online

Languages
Español

Duration
1500 hours (60 ECTS)

No Limit
AI Assistant

Does it include practices?
NO

Educational Institutions

Structuralia Engineering eLearning

UNIVERSIDAD NEBRIJA

Summary

The Master in Artificial Intelligence. Model Management and Implementation offers advanced specialization for professionals seeking to lead the strategic integration of AI in their organizations, optimizing business processes and strategies. This program provides you with a deep understanding of the models and algorithms that drive innovation, covering everything from the foundations of Artificial Intelligence and its various types, to the implementation of AI projects from start to finish. You will specialize in managing AI models, exploring Machine Learning and Deep Learning algorithms for informed strategic decision making and solving complex challenges. You will gain critical skills in self-service data preparation, using essential tools such as Excel, Talend, and Dataprep by Trifacta to optimize information quality, accessibility, and governance, a critical pillar for the success of any AI initiative. You will delve into Data Mining, extracting value and hidden patterns that will drive innovation and competitive advantage in various sectors. This training will allow you to manage and implement AI models with technical and strategic solvency, positioning you as a reference in the management of advanced technological projects and the optimization of processes

through Artificial Intelligence, directly contributing to the growth, operational efficiency and digital transformation of your organization.

Agenda

MODULE 1. ARTIFICIAL INTELLIGENCE

1. DIDACTIC UNIT 1. INTRODUCTION TO ARTIFICIAL INTELLIGENCE

1. State of the art of artificial intelligence
2. Philosophy of artificial intelligence
3. Future of artificial intelligence
4. Project development processes with artificial intelligence
5. Data, your greatest asset

2. DIDACTIC UNIT 2. TYPES OF ARTIFICIAL INTELLIGENCE

1. Machine learning
2. Deep learning
3. Transformers
4. Synthetic data generation
5. Hyperparameters in artificial intelligence models

3. DIDACTIC UNIT 3. INTRODUCTION TO MACHINE LEARNING ALGORITHMS

1. Linear regression
2. Nonlinear Regression and Support Vector Machine (SVM)
3. Decision trees and random forests
4. Fuzzy logic and gradient descent
5. Recommendation systems

4. DIDACTIC UNIT 4. TURNKEY PROJECT WITH ARTIFICIAL INTELLIGENCE

1. Preparing the work environment: Anaconda, Visual Studio Code and Python
2. Data entry and data processing dataset
3. TensorHub, TensorFlow and Keras
4. Image processing
5. Generation of artificial intelligence models

MODULE 2. SELF-SERVICE DATA PREPARATION. EXCEL, TALEND AND TRIFACTA

1. DIDACTIC UNIT 1. DATA PREPARATION

1. Introduction
2. Data Literacy
3. Work with data
4. Solutions and techniques for data processing
5. Data quality management

2. DIDACTIC UNIT 2. DATA PREPARATION WITH EXCEL

1. Work with data in Excel
2. Dataset (DATASET)
3. Data Cleasing with Excel

4. Data Wrangling with Excel
5. Data Blending in Excel

3. DIDACTIC UNIT 3. DATA PREPARATION WITH TALEND

1. Installing Talend Data Preparation Desktop
2. Working with data in Talend
3. Data Cleasing with Talend
4. Data Wrangling with Talend
5. Data Blending with Talend

4. DIDACTIC UNIT 4. DATA PREPARATION WITH DATAPREP BY TRIFACTA

1. Registration in dataprep by Trifacta
2. Working with data with Dataprep by Trifacta
3. Data Cleasing with Trifacta
4. Data Wrangling with Dataprep by Trifacta
5. Data Blending with Dataprep by Trifacta

MODULE 3. DATA MINING, MACHINE LEARNING AND DEEP LEARNING (BIG DATA)

1. DIDACTIC UNIT 1. SUPERVISED LEARNING (I)

1. Introduction
2. Linear, multiple and logistic regression (I)
3. Linear, multiple and logistic regression (II)
4. Support Vector Machine (SVM)
5. Decision trees

2. DIDACTIC UNIT 2. SUPERVISED LEARNING (II)

1. KNN (K-Nearest Neighbors)
2. naïve bayes
3. Evaluation of supervised models
4. Example exercise
5. Proposed exercise

3. DIDACTIC UNIT 3. UNSUPERVISED LEARNING

1. Introduction to clustering: purpose and metrics
2. K-means clustering
3. Hierarchical clustering, other techniques and examples
4. Principal Component Analysis (PCA)
5. PCA Example Exercise

4. DIDACTIC UNIT 4. DEEP LEARNING

1. Artificial Neural Networks (ANN) (I)
2. Artificial Neural Networks (ANN) (II)
3. Artificial neural networks (ANN) (III)
4. Example exercise
5. Proposed exercise

MODULE 4. ADVANCED DEEP LEARNING

1. DIDACTIC UNIT 1. INTRODUCTION TO MACHINE LEARNING

1. Introduction
2. Machine learning algorithm classification
3. Machine Learning Examples
4. Differences between machine learning and deep learning
5. Types of machine learning algorithms
6. The future of machine learning

2. DIDACTIC UNIT 2. DATA STRUCTURE EXTRACTION: CLUSTERING

1. Introduction
2. Algorithms

3. DIDACTIC UNIT 3. RECOMMENDATION SYSTEMS

1. Introduction
2. Collaborative filtering
3. Clustering
4. Hybrid recommender systems

4. DIDACTIC UNIT 4. CLASSIFICATION

1. Classifiers
2. Algorithms

5. DIDACTIC UNIT 5. NEURAL NETWORKS AND DEEP LEARNING

1. Components
2. Learning

6. DIDACTIC UNIT 6. ELECTION SYSTEMS

1. Introduction
2. The process of moving from DSS to IDSS
3. Application cases

7. DIDACTIC UNIT 7. DEEP LEARNING WITH PYTHON, KERAS AND TENSORFLOW

1. Deep learning
2. Deep Learning Environment with Python
3. Machine and deep learning

8. DIDACTIC UNIT 8. NEURAL SYSTEMS

1. Neural networks
2. Deep networks and shallow networks

9. DIDACTIC UNIT 9. SINGLE LAYER NETWORKS

1. Single-layer and multi-layer perceptron
2. Perceptron example

10. DIDACTIC UNIT 10. MULTILAYER NETWORKS

1. Types of deep networks

11. DIDACTIC UNIT 11. LEARNING STRATEGIES

1. Data input and output
2. Train a neural network
3. Computational graphics
4. Deploying a deep network
5. The forward propagation algorithm
6. Multilayer deep neural networks

MODULE 5. POWER BI. DATA VISUALIZATION TOOL FOR DECISION MAKING

1. DIDACTIC UNIT 1. GETTING STARTED WITH POWER BI

1. Introduction to Power BI
2. Different types of Power BI: is it really free?
3. Let's dive into it: first simple report
4. Power Query: data source
5. Data transformation

2. DIDACTIC UNIT 2. DATA MODELING AND DAX

1. Data modeling
2. Getting started with DAX (I)
3. Getting started with DAX (II)
4. Mastering DAX (I)
5. Mastering DAX (II)

3. DIDACTIC UNIT 3. DATA VISUALIZATION

1. Table and matrix
2. Trends
3. How to filter your data properly
4. Bookmarks
5. Getting details

4. DIDACTIC UNIT 4. TAKING POWER BI TO THE NEXT LEVEL

1. Understanding Power BI Service
2. Sharing content in Power BI Service
3. Comparing Power BI Service and Power Report Service
4. Integrating Python and R in Power BI Desktop
5. Introducing Bravo for Power BI Desktop

MODULE 6. PRACTICAL APPLICATIONS OF MACHINE LEARNING, DEEP LEARNING AND DATA SCIENCE

1. DIDACTIC UNIT 1. MACHINE LEARNING. IMPLEMENTATION OF ALGORITHMS IN PYTHON AND MACHINE LEARNING TOOLS AND/OR LIBRARIES.

1. - Linear Regression.
2. - Logistic Regression.
3. - Neural Networks.
4. - Clustering.
5. Principal Component Analysis (PCA).

2. DIDACTIC UNIT 2. DEEP LEARNING. IMPLEMENTATION OF ALGORITHMS IN PYTHON AND DEEP LEARNING TOOLS AND/OR LIBRARIES.

1. - Deep neural networks.
2. - Algorithm optimization.
3. - Convolutional neural networks.
4. - Recurrent neural networks.
5. - NPL. Natural language processing.

3. DIDACTIC UNIT 3. DATA SCIENCE. DATA ANALYSIS AND VISUALIZATION USING THE POWERBI TOOL.

1. - Creation of Tables and reports.
2. - Data transformation and filtering.
3. - Data visualization.
4. - Calculation. Relationships between data tables, metrics and indicators.
5. - Dynamic and interactive control panel.

4. DIDACTIC UNIT 4. DEVELOPMENT OF REAL APPLICATIONS.

1. - Application. Classification of objects in images.
2. - Application. Object detection in images.
3. - Application. Facial recognition.
4. - Application. Word detection for voice assistants.
5. - Application. Business Intelligence.

MODULE 7. TECHNOLOGY ECOSYSTEMS. INTRODUCTION TO NEW DISRUPTIVE TECHNOLOGIES

1. DIDACTIC UNIT 1. INTRODUCTION TO THE ECOSYSTEM OF TECHNOLOGIES

1. Fourth industrial revolution
2. Digital transformation in companies
3. Fundamentals and key points
4. Benefits
5. Enabling technologies

2. DIDACTIC UNIT 2. ENABLING TECHNOLOGIES I

1. Big Data
2. Cloud Computing
3. Blockchain
4. Artificial intelligence
5. Virtual and augmented reality

3. DIDACTIC UNIT 3. ENABLING TECHNOLOGIES II

1. BIM

2. Collaborative robots
3. Additive manufacturing
4. Hyperconnectivity
5. IOT

4. DIDACTIC UNIT 4. ENABLING TECHNOLOGIES III

1. Manufacturing Execution System (MES)
2. Process integration and efficiency
3. Use cases
4. New methodologies: agile, lean startup or design thinking
5. Change management

MODULE 8. IDEA AND MANAGEMENT METHODOLOGIES OF ARTIFICIAL INTELLIGENCE PROJECTS

1. DIDACTIC UNIT 1. INTRODUCTION

1. Introduction
2. Key Elements for AI Project Management
3. Characteristics of AI projects
4. Introduction to the main agile and ideation methodologies
5. Integration of different methodologies

2. DIDACTIC UNIT 2. DESIGN THINKING

1. Introduction
2. Phase I: Empathize
3. Phase II: Define
4. Phase III: Ideate
5. Phase IV: prototyping

3. DIDACTIC UNIT 3. LEAN START-UP AND SCRUM

1. Read start-up. Basics
2. Lean Start-up. Tools
3. Scrum. Introduction
4. Scrum. Roles
5. Scrum. Ceremonies and artifacts

4. DIDACTIC UNIT 4. APPLICATION TO AI PROJECTS

1. Introduction
2. Devising the project
3. Running the project
4. Some tips when implementing the methodologies
5. Summary and conclusions

MODULE 9. IMPACT OF ARTIFICIAL INTELLIGENCE ON THE COMPANY

1. DIDACTIC UNIT 1. ARTIFICIAL INTELLIGENCE APPLIED TO DIFFERENT SECTORS

1. Finance and Insurance
2. Retail

3. Industry
4. Agriculture
5. Health

2. DIDACTIC UNIT 2. APPLICATIONS IN DIFFERENT AREAS OF A COMPANY

1. Logistics and operations
2. Marketing
3. Sales and Customer Service
4. Finance and Control
5. People Analytics

3. DIDACTIC UNIT 3. STARTING IN AI

1. Current scenario of a booming sector
2. Financing and funds
3. Featured Startups
4. Future of the ecosystem
5. Starting an AI company

4. DIDACTIC UNIT 4. ETHICS. COMPANY AND SOCIETY

1. Ethics. General notes.
2. Examples of biases.
3. Global initiatives.
4. Public organizations and regulation.
5. AI in the Sustainable Development Goals

MODULE 10. TFM. MASTER ARTIFICIAL INTELLIGENCE

Qualification

University Degree in Master of Lifelong Training in Artificial Intelligence. Management and Implementation of Models issued by the Antonio de Nebrija University with 60 ECTS University Credits. Teachings not leading to obtaining an official qualification

Objectives

- • Lead the conceptualization and development of AI initiatives, understanding their strategic potential and limitations. • Design strategies for the implementation of Machine Learning and Deep Learning algorithms, optimizing their organizational application. • Manage data preparation and processing with tools such as Excel, Talend and Dataprep by Trifacta, ensuring quality for AI models. • Implement AI projects from start to finish, from design to production, guaranteeing their effective integration. • Evaluate the impact of AI solutions, measuring their performance and adjusting strategies to maximize return on investment. • Make informed decisions about the selection and application of types of AI, aligning them with business objectives. • Integrate the global vision of Data Mining to extract valuable patterns and knowledge, driving innovation and competitive advantage. • Lead multidisciplinary teams in the execution of AI projects, promoting collaboration and efficiency.

What does it prepare you for?

This program prepares you to lead the digital transformation of your organization through the strategic application of Artificial Intelligence. You will develop a global vision that will allow you to understand the types of AI and their limits, as well as design and implement AI projects from start to finish. You will acquire advanced technical skills for self-service data preparation, using tools such as Excel, Talend and Dataprep by Trifacta, essential for any AI initiative. You will delve into machine learning algorithms and data mining techniques, training you to extract value from large volumes of information. You will be trained in the strategic application of Artificial Intelligence to drive innovation and operational efficiency. You will make strategic decisions based on predictive analysis and model management, driving innovation and operational efficiency in your professional field.

Who is it addressed to?

This program is designed for professionals from any sector or functional area who are seeking a high-level specialization in the direction and management of Artificial Intelligence projects. If you already work in management or leadership roles and feel the need to integrate AI into your organizational strategy, this program offers you the structure to do so. It is for you if you are interested in new technologies and aspire to lead AI initiatives, transforming the way your company approaches innovation. You will acquire the skills to understand, apply and effectively manage AI models, overcoming the lack of structured training in this crucial area and consolidating your profile as a technological leader.

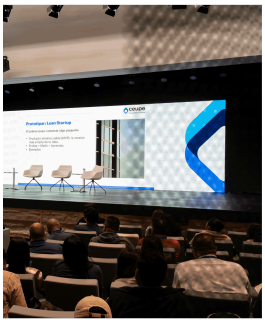
Official Character

This training is not included within the scope of official regulated training (Early Childhood Education, Primary Education, Secondary Education, Official Vocational Training FP, Baccalaureate, University Degree, Master University Officer and Doctorate). It is therefore a complementary and/or specialization training, aimed at the acquisition of certain competencies, skills or aptitudes of a professional nature, which can be assessed as merit in job boards and/or competitive examinations, always within the section of Complementary Training and/or Continuous Training. It is always essential to review the specific grading requirements of the specific public job boards to which we wish to apply.

Professional Outings

- Specialization in the management and implementation of Artificial Intelligence models positions you strategically in the field of technology and digital transformation, a market in constant evolution. You will be able to assume highly responsible roles, directing the strategy and execution of key technological initiatives. You will serve as AI Project Director, leading multidisciplinary teams from conception to production of innovative solutions. You will also be able to assume the role of AI Strategy Manager, designing roadmaps for the integration of Artificial Intelligence into business operations. If your interest leans towards consulting, you can develop as a Senior Consultant in Digital Transformation with AI, advising organizations on the optimization of their processes through data analysis and the implementation of machine learning algorithms. You will manage data preparation and data mining to extract value, driving evidence-based decision making. Your profile will be key to innovation and business growth, providing strategic value in the age of AI.







Live Madrid

Live the International Week

As an additional complement to your training, you can be part of the SIM: Week International in Madrid. A unique meeting that brings together students from all over the world. For seven days you can live an academic and cultural experience in the heart of Europe, culminating with the graduation ceremony in Madrid.

- Conferences and workshops with international experts
- Visits to companies and reference organizations
- Networking with students from different countries
- Cultural activities and discovery of Madrid
- graduation ceremony

Structural

Structuralia is a leading educational institution in postgraduate and highly specialized online training, focused on the fields of engineering, architecture, construction, energy, technology and digital transformation.

Founded in 2001 with a strong industrial DNA, the result of collaboration between large companies in the sector and the Universitat Politècnica de Catalunya (UPC), for more than 25 years we have accompanied technical professionals in their academic and professional development through practical, flexible training aligned with the reality of the labor market.

Our training proposal connects advanced technical knowledge, real employability and international projection, acting as key support in the professional evolution of those seeking to specialize, grow professionally and generate impact in their sector, with a firm commitment to the democratization of access to technical excellence.



+350.000

Students have gone through our virtual classrooms



+20 years

Experience in the training sector



5 stars

QS ranking in online education

EDUCA EDTECH
Group

Educa Edtech GROUP

When you enroll in a course or master's degree, you will get a free subscription to MyLXP while your training lasts. You will have access to more than 400 key courses (soft skills, languages, digital skills, etc.) and other surprises. Sign up and see how MyLXP improves your learning.

EDUCA LXP Methodology

The comprehensive tailored online education experience

EDUCA LXP is more than a methodology, it is a completely educational experience personalized thanks to all the possibilities offered by artificial intelligence. Now the content adapts to you, your needs and preferences, while offering you access to updated and practical content that really makes a difference in the labor market.

Flexibility

100% online learning adapted to your schedule: study from any device wherever, whenever and however you want.

Personalization

Contents and training itineraries adapted to your needs, thanks to AI.

Innovation

Constantly evolving technological developments driven by AI through the Learning Experience Platform.

Artificial intelligence

Discover PHIA, your learning assistant that will help you every step of the way.

Teaching support

Human empathy and academic guidance from a specialized teaching team.

Educational Experience

Didactic approach oriented to work by competencies, which favors practical and meaningful learning.

MY LXP

When you enroll in a course or master's degree, you will get a free subscription to MyLXP while your training lasts

You will have access to more than 400 key courses (soft skills, languages, competencies digital, etc.) and other surprises. Sign up and see how MyLXP improves your learning.

Meet PHIA, your personalized learning assistant

Use all the possibilities of artificial intelligence to get the most out of it match to your training

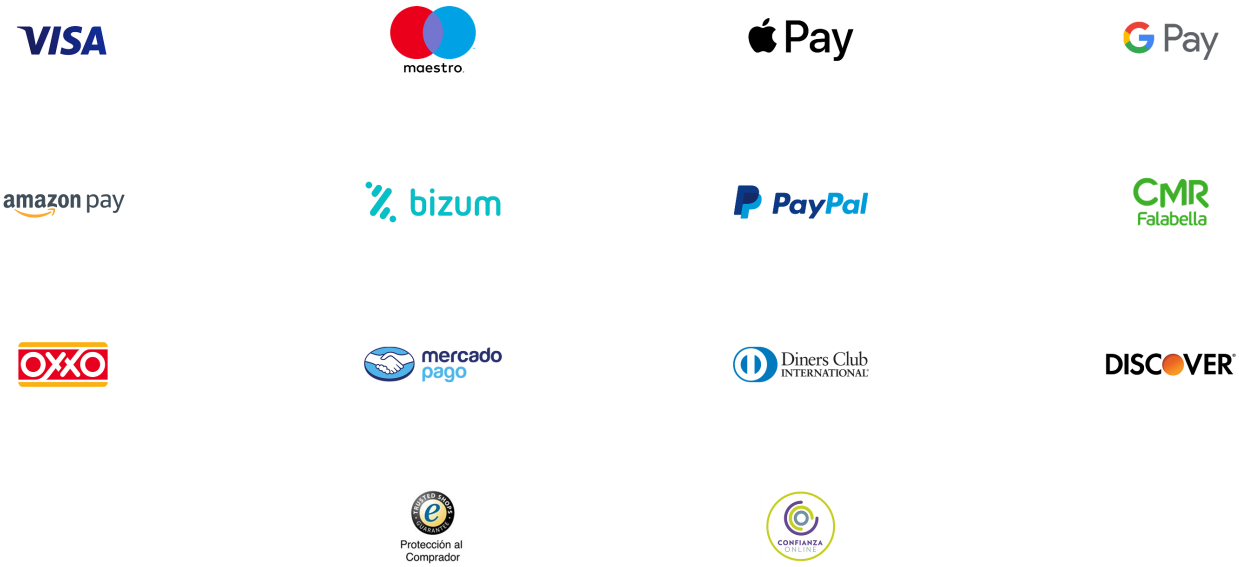
EDUCA EDTECH Group leads the digital revolution in education, promoting the continuous learning and technological transformation. The group is made up of recognized training institutions and its mission is to democratize access to education, promote the transfer of knowledge, technological development and research.

With the experience accumulated over more than 20 years, we have perfected our learning platform EDUCA LXP (Learning Experience Platform), the basis of our educational methodology, which provides students with online training practical and meaningful.



Discover all the payment facilities

We adapt to all international payment methods.



Funding and scholarships

Finance your course or master's degree and enjoy the available scholarships. Contact our expert team to know which one best suits your profile.

25%
Alumni Scholarship

15%
Scholarship recommended

20%
Functional Diversity Scholarship

20%
Unemployment scholarship

15%
GROUP Scholarship

20%
Scholarship for Professionals, Healthcare, members

15%
Entrepreneurship Scholarship

20%
Large Family Scholarship