Postgraduate Certificate

Big Data and Artificial Intelligence

tech technological university

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Postgraduate Certificate
Big Data and Artificial Intelligence

- Modality: **online**
- Duration: **6 weeks**
- Certificate: **TECH Technological University**
- Dedication: **16h/week**
- Schedule: **at your own pace**
- Exams: **online**

Website: www.techtitute.com/in/information-technology/postgraduate-certificate/big-data-artificial-intelligence

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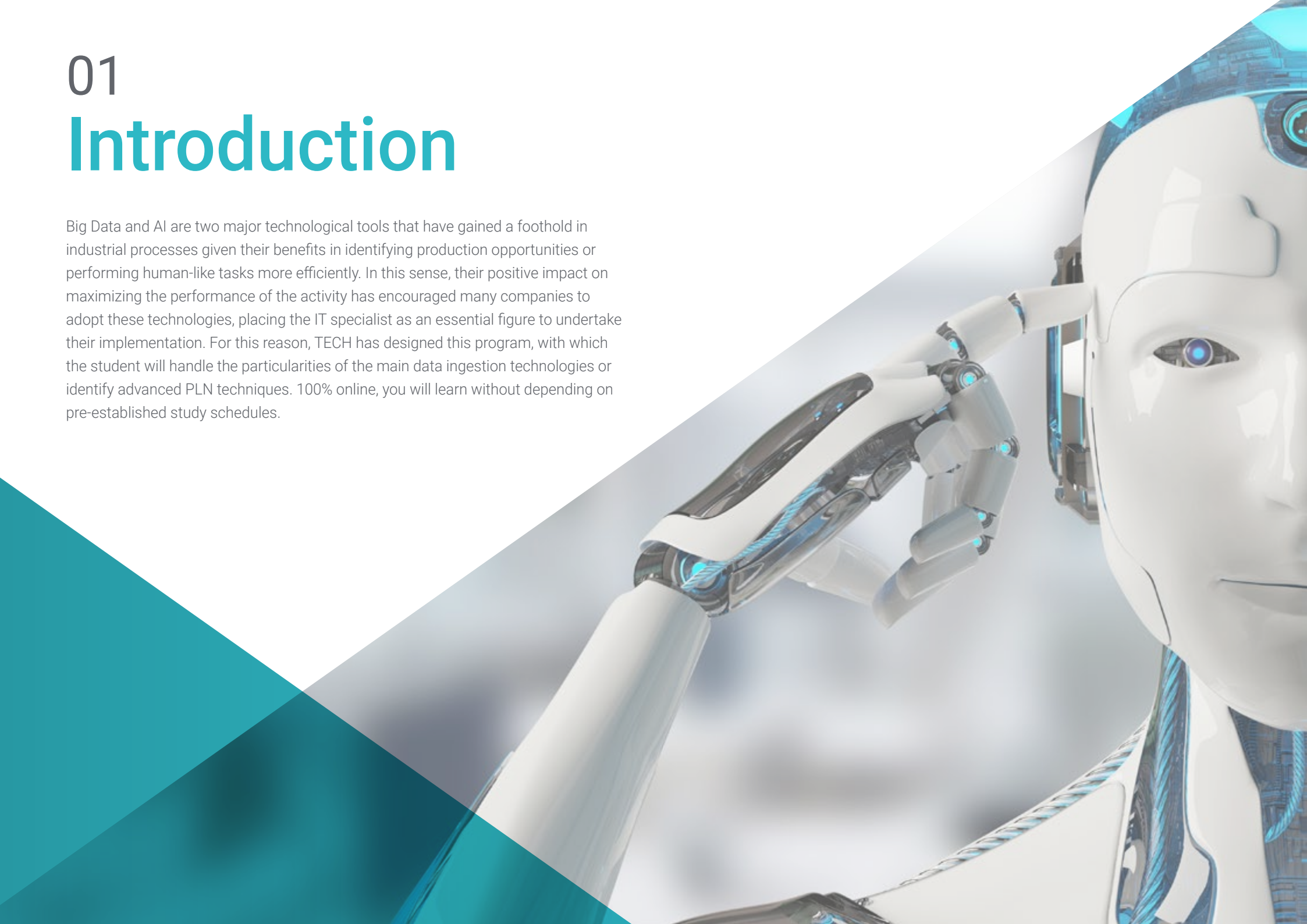
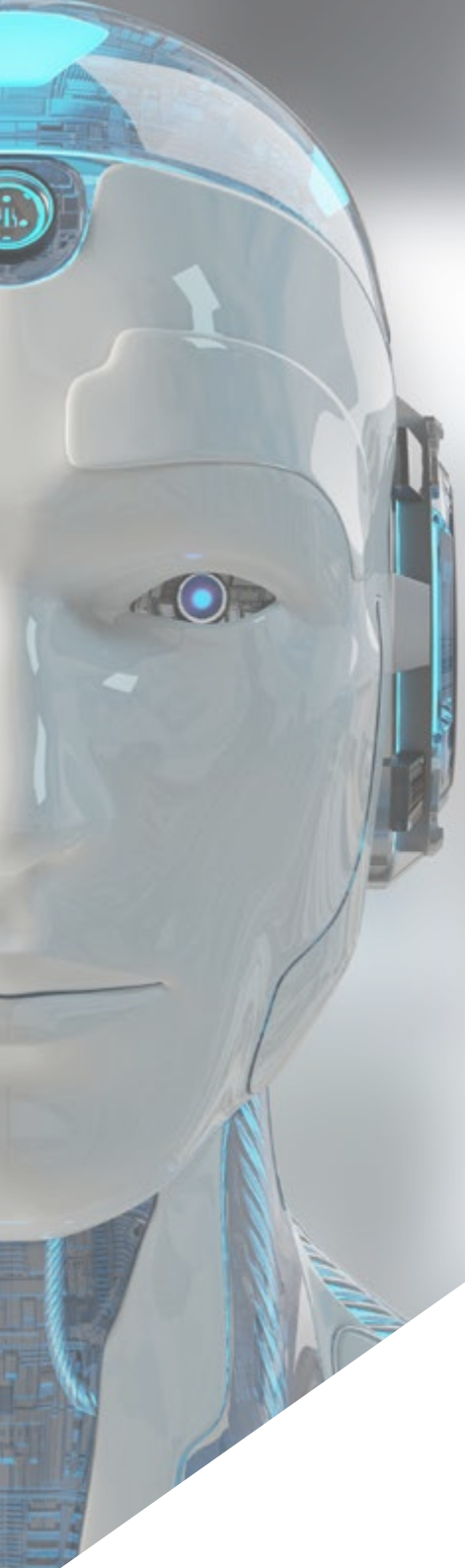
01

Introduction

Big Data and AI are two major technological tools that have gained a foothold in industrial processes given their benefits in identifying production opportunities or performing human-like tasks more efficiently. In this sense, their positive impact on maximizing the performance of the activity has encouraged many companies to adopt these technologies, placing the IT specialist as an essential figure to undertake their implementation. For this reason, TECH has designed this program, with which the student will handle the particularities of the main data ingestion technologies or identify advanced PLN techniques. 100% online, you will learn without depending on pre-established study schedules.





The Postgraduate Certificate in Big Data and Artificial Intelligence will allow you to identify the advantages and limitations offered by the main data ingestion technologies, in order to optimize the productive work of the company"

The incessant technological advances have been progressively integrated in the field of Industry, where Big Data and Artificial Intelligence stand out mainly due to their strong impact on productive tasks. In this way, these tools are excellent allies to obtain large volumes of data to optimize productive decisions or to mechanize those tasks performed years ago by man. Thanks to the positive benefits in terms of reduced economic costs, thousands of companies are adopting these technologies in their work methodology. As a result, the computer specialist in its implementation is nowadays becoming more and more precise.

Given this circumstance, TECH has opted to create this educational program, through which the student will increase their knowledge of Big Data and Artificial Intelligence to promote their professional incursion in a sector that is constantly booming. During 6 weeks of intensive teaching, you will identify the most sophisticated tools for working with Big Data or the most effective strategies for data cleansing and normalization. You will also discuss the potential development available to Chatbots and virtual assistants to perform various industrial tasks.

Thanks to the fact that this Postgraduate Certificate is taught by means of a completely online methodology, the computer scientist will be able to perfectly combine his exquisite learning with his personal and professional obligations. Furthermore, this program is designed by leading experts in the world of Big Data, Artificial Intelligence and industrial technology solutions. Therefore, the knowledge assimilated by the student will be fully applicable in the workplace.

This **Postgraduate Certificate in Big Data and Artificial Intelligence** contains the most complete and up-to-date program on the market. The most important features include:

- The development of case studies presented by experts in business-oriented technological solutions
- The graphic, schematic, and practical contents with which they are created, provide practical information on the disciplines that are essential for professional practice
- Practical exercises where self-assessment can be used to improve learning
- Its special emphasis on innovative methodologies
- Theoretical lessons, questions to the expert, debate forums on controversial topics, and individual reflection assignments
- Content that is accessible from any fixed or portable device with an Internet connection

Throughout this educational period, you will be able to identify the medium-long term potential offered by Artificial Intelligence Chatbots in Industry 4.0"

Combine your personal and professional tasks with your exquisite learning thanks to the study facilities offered by TECH"

Develop your knowledge in the field of Big Data and Artificial Intelligence with professionals with extensive professional experience linked to these technologies.

Detect, through this program, which are the most sophisticated strategies for cleaning and normalization of data extracted from Big Data work.

The program's teaching staff includes professionals from the field who contribute their work experience to this educational program, as well as renowned specialists from leading societies and prestigious universities.

The multimedia content, developed with the latest educational technology, will provide the professional with situated and contextual learning, i.e., a simulated environment that will provide immersive education programmed to learn in real situations.

This program is designed around Problem-Based Learning, whereby the professional must try to solve the different professional practice situations that arise during the educational year. For this purpose, the students will be assisted by an innovative interactive video system created by renowned and experienced experts.

02

Objectives

TECH has designed this Postgraduate Certificate in order to promote the assimilation of the most relevant and up-to-date knowledge in Big Data and Artificial Intelligence by computer scientists. In this way, you will detect cutting-edge tools to optimize the visualization of the data obtained or delve into the benefits of Chatbots in industrial processes. Such learning will be preserved by the achievement of the following general and specific objectives.

In just 6 weeks, you will gain a range of knowledge about Big Data and Artificial Intelligence that will help you obtain relevant professional growth"

General Objectives

- Conduct a comprehensive analysis of the profound transformation and radical paradigm shift being experienced in the current global digitalization process
- Provide in-depth knowledge and the necessary technological tools to face and lead the technological leap and the challenges currently present in companies
- Mastering the digitalization procedures of companies and the automation of their processes to create new fields of wealth in areas such as creativity, innovation and technological efficiency
- Leading Digital Change

Specific Objectives

- Deepen the knowledge of the fundamental principles of artificial intelligence
- Master the techniques and tools of this technology (machine learning/deep learning)
- Obtain a practical knowledge of one of the most widespread applications such as Chatbots and virtual assistants
- Acquire knowledge of the different transversal applications that this technology has in all fields

Increase your career prospects in the area of Big Data and Artificial Intelligence applied to Industry through this program"

03

Course Management

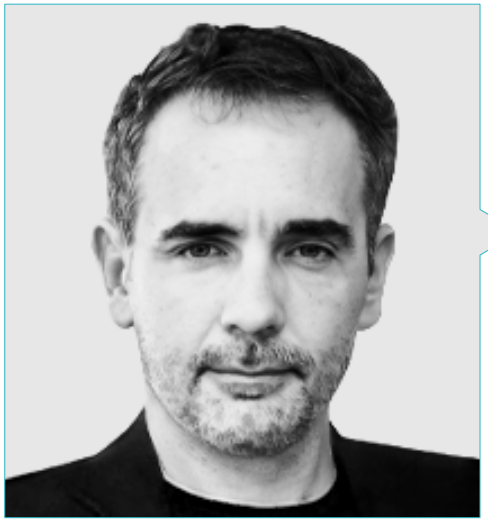
Thanks to TECH's tireless commitment to preserving the excellent educational quality of its programs, this program has a teaching team made up of the best specialists in Big Data and Artificial Intelligence for the industrial sector. In addition, the teaching materials that the student will benefit from during this Postgraduate Certificate course have been developed by these experts. Therefore, the contents provided will be in line with the latest advances in these fields.

Get the most professionally applicable knowledge about Big Data and Artificial Intelligence from the best experts in these fields"

Management

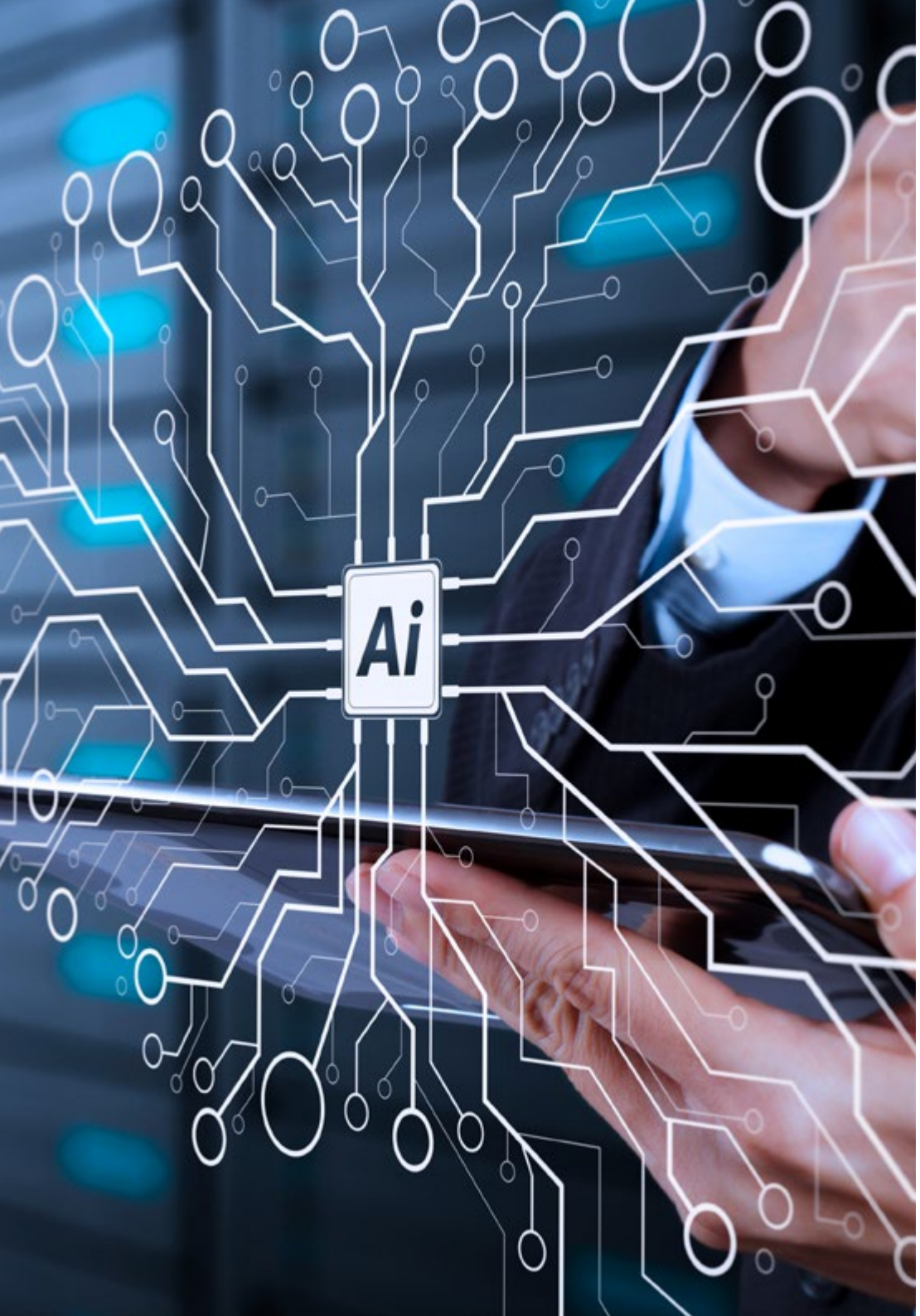
Mr. Segovia Escobar, Pablo

- Chief Executive of the Defense Sector in the Company Tecnobit of the Oesía Group
- Project Manager at Indra
- Master's Degree in Business Administration and Management from the National University of Distance Education
- Postgraduate in Strategic Management Function
- Member of: Spanish Association of People with High Intellectual Quotient



Mr. Diezma López, Pedro

- Chief Innovation Officer and CEO of Zerintia Technologies
- Founder of the technology company Acuilae
- Member of the Kebala Group for the incubation and promotion of businesses
- Consultant for technology companies such as Endesa, Airbus or Phone
- Wearable "Best Initiative" Award in eHealth 2017 and "Best Technological "Solution" 2018 for occupational safety



Professors

Ms. Sánchez López, Cristina

- CEO and Founder of Acuilae
- Artificial Intelligence Consultant at ANHELA IT
- Developer of Ethyka Software for Computer Systems Security
- Software Engineer for the Accenture Group, serving clients such as Banco Santander, BBVA and Endesa
- Master in Data Science at KSchool
- Degree in Statistics from the Complutense University Madrid

A unique, key, and decisive educational experience to boost your professional development"

04

Structure and Content

The plan of study of this program is composed of 1 module through which the student will significantly increase their knowledge and skills in the use of Big Data and Artificial Intelligence. All the teaching resources that you will have at your disposal throughout the course of this Postgraduate Certificate are available in a wide range of interactive and multimedia formats of various types. As a result, you will get 100% online, enjoyable and fully individualized learning.

This Postgraduate Certificate has a 100% online methodology that will allow you to learn from anywhere and at any time you want, 24 hours a day"

Module 1. Big Data and Artificial Intelligence

1.1. Fundamental Principles of Big Data
- 1.1.1. Big Data
- 1.1.2. Tools to Work With Big Data

1.2. Data Mining and Warehousing
- 1.2.1. Data Mining Cleaning and Standardization
- 1.2.2. Information Extraction, Machine Translation, Sentiment Analysis, etc
- 1.2.3. Types of Data Storage

1.3. Data Intake Applications
- 1.3.1. Principles of Data intake
- 1.3.2. Data Ingestion Technologies to Serve Business Needs

1.4. Data Visualization
- 1.4.1. The Importance of Data Visualization
- 1.4.2. Tools to Carry It Out Tableau, D3, matplotlib (Python), Shiny®

1.5. Machine Learning
- 1.5.1. Understanding Machine Learning
- 1.5.2. Supervised and Unsupervised Learning
- 1.5.3. Types of Algorithms

1.6. Neural Networks (Deep Learning)
- 1.6.1. Neural Network: Parts and Operation
- 1.6.2. Types of Networks CNN, RNN
- 1.6.3. Applications of Neural Networks; Image Recognition and Natural Language Interpretation
- 1.6.4. Generative Text Networks: LSTM

1.7. Natural Language Recognition
- 1.7.1. PNL (Processing Natural Language)
- 1.7.2. Advanced PLN Techniques: Word2vec, Doc2vec

1.8. Chatbots and Virtual Assistants
  1.8.1. Types of Assistants: Voice and Text Assistants
  1.8.2. Fundamental Parts for the Development of an Assistant: Intents, Entities and Dialog Flow
  1.8.3. Integrations: Web, Slack, WhatsApp, Facebook
  1.8.4. Assistant Development Tools: Dialogflow, Watson Assistant
1.9. Emotions, Creativity and Personality in IA
  1.9.1. Understand How to Detect Emotions Using Algorithms
  1.9.2. Creating a Personality: Language, Expressions and Content
1.10. Future of Artificial Intelligence
  1.11. Reflections

Take this program and obtain the most up-to-date teaching contents regarding Big Data and Artificial Intelligence with application in the industrial field"

05

Methodology

This academic program offers students a different way of learning. Our methodology uses a cyclical learning approach: **Relearning.**

This teaching system is used, for example, in the most prestigious medical schools in the world, and major publications such as the **New England Journal of Medicine** have considered it to be one of the most effective.

Discover Relearning, a system that abandons conventional linear learning, to take you through cyclical teaching systems: a way of learning that has proven to be extremely effective, especially in subjects that require memorization"

Case Study to contextualize all content

Our program offers a revolutionary approach to developing skills and knowledge. Our goal is to strengthen skills in a changing, competitive, and highly demanding environment.

At TECH, you will experience a learning methodology that is shaking the foundations of traditional universities around the world"

You will have access to a learning system based on repetition, with natural and progressive teaching throughout the entire syllabus.

The student will learn to solve complex situations in real business environments through collaborative activities and real cases.

A learning method that is different and innovative

This TECH program is an intensive educational program, created from scratch, which presents the most demanding challenges and decisions in this field, both nationally and internationally. This methodology promotes personal and professional growth, representing a significant step towards success. The case method, a technique that lays the foundation for this content, ensures that the most current economic, social and professional reality is taken into account.

"Our program prepares you to face new challenges in uncertain environments and achieve success in your career"

The case method has been the most widely used learning system among the world's leading Information Technology schools for as long as they have existed. The case method was developed in 1912 so that law students would not only learn the law based on theoretical content. It consisted of presenting students with real-life, complex situations for them to make informed decisions and value judgments on how to resolve them. In 1924, Harvard adopted it as a standard teaching method.

What should a professional do in a given situation? This is the question that you are presented with in the case method, an action-oriented learning method. Throughout the course, students will be presented with multiple real cases. They will have to combine all their knowledge and research, and argue and defend their ideas and decisions.

Relearning Methodology

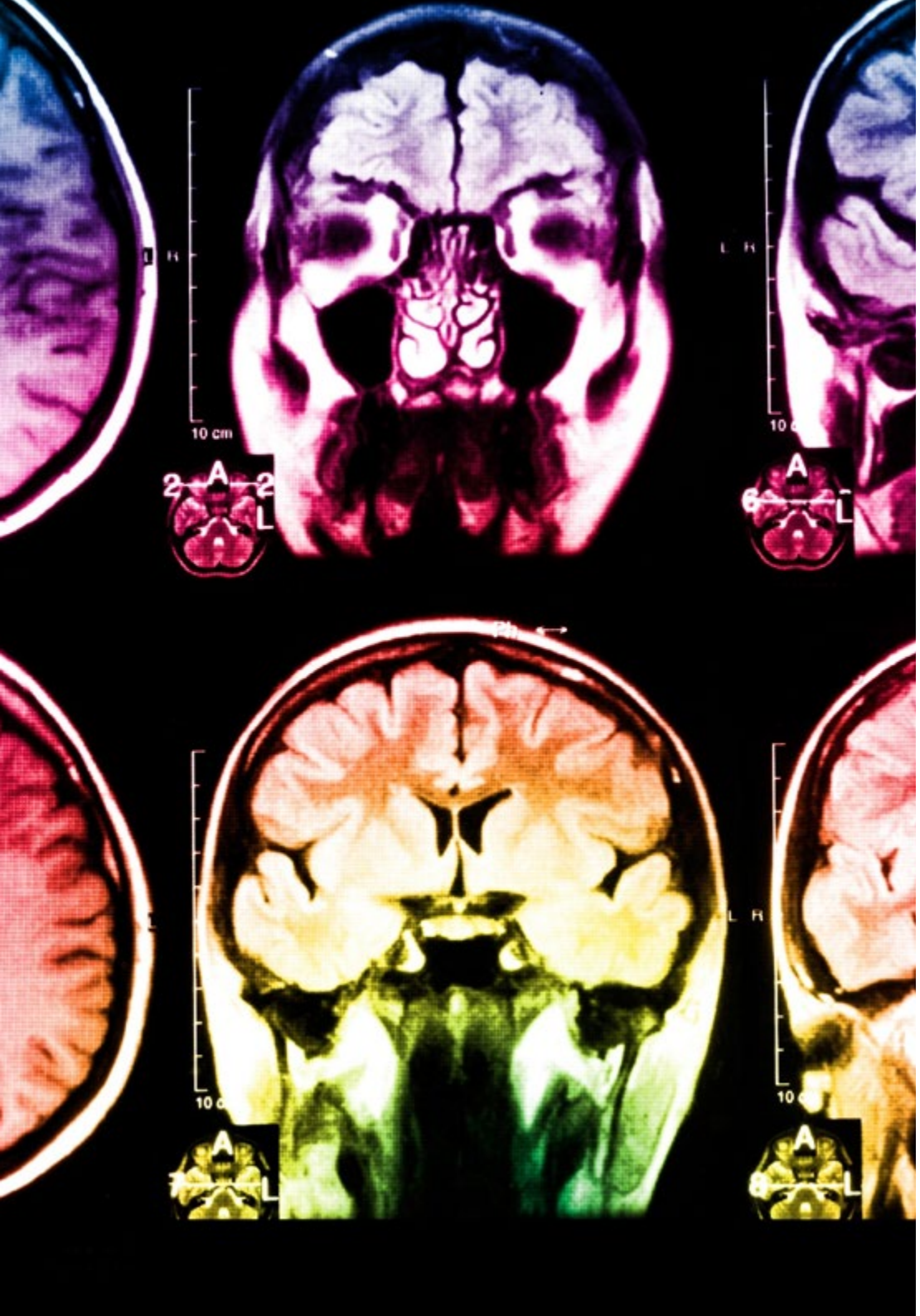
TECH effectively combines the Case Study methodology with a 100% online learning system based on repetition, which combines different teaching elements in each lesson.

We enhance the Case Study with the best 100% online teaching method: Relearning.

In 2019, we obtained the best learning results of all online universities in the world.

At TECH you will learn using a cutting-edge methodology designed to train the executives of the future. This method, at the forefront of international teaching, is called Relearning.

Our university is the only one in the world authorized to employ this successful method. In 2019, we managed to improve our students' overall satisfaction levels (teaching quality, quality of materials, course structure, objectives...) based on the best online university indicators.



In our program, learning is not a linear process, but rather a spiral (learn, unlearn, forget, and re-learn). Therefore, we combine each of these elements concentrically. This methodology has trained more than 650,000 university graduates with unprecedented success in fields as diverse as biochemistry, genetics, surgery, international law, management skills, sports science, philosophy, law, engineering, journalism, history, and financial markets and instruments. All this in a highly demanding environment, where the students have a strong socio-economic profile and an average age of 43.5 years.

Relearning will allow you to learn with less effort and better performance, involving you more in your training, developing a critical mindset, defending arguments, and contrasting opinions: a direct equation for success.

From the latest scientific evidence in the field of neuroscience, not only do we know how to organize information, ideas, images and memories, but we know that the place and context where we have learned something is fundamental for us to be able to remember it and store it in the hippocampus, to retain it in our long-term memory.

In this way, and in what is called neurocognitive context-dependent e-learning, the different elements in our program are connected to the context where the individual carries out their professional activity.

This program offers the best educational material, prepared with professionals in mind:

Study Material

All teaching material is produced by the specialists who teach the course, specifically for the course, so that the teaching content is highly specific and precise.

These contents are then applied to the audiovisual format, to create the TECH online working method. All this, with the latest techniques that offer high quality pieces in each and every one of the materials that are made available to the student.

Classes

There is scientific evidence suggesting that observing third-party experts can be useful.

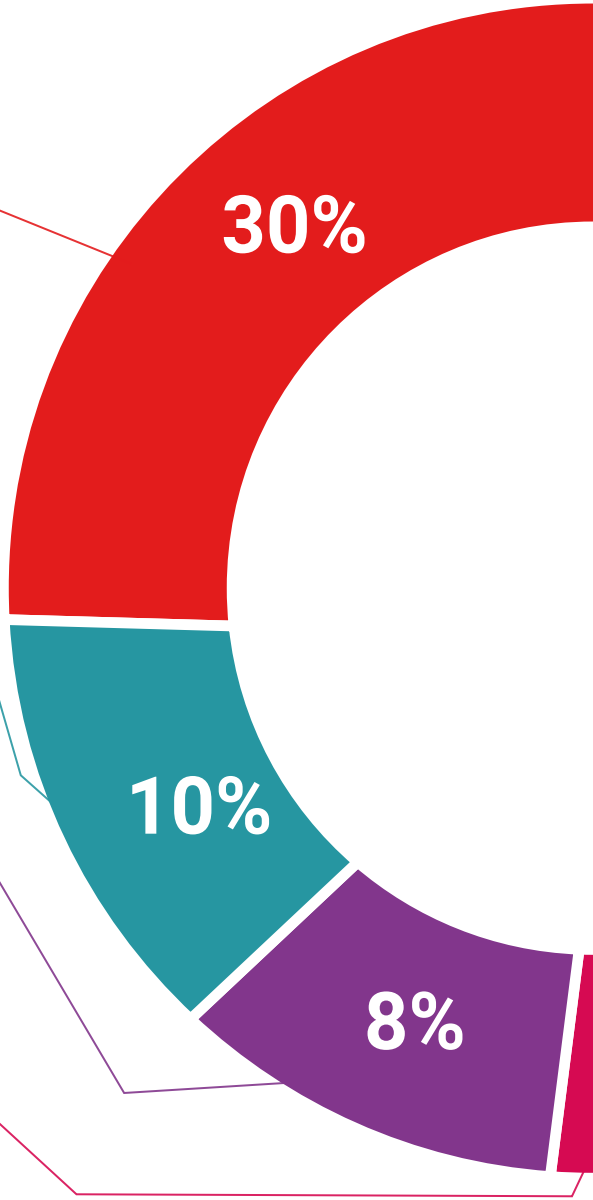
Learning from an Expert strengthens knowledge and memory, and generates confidence in future difficult decisions.

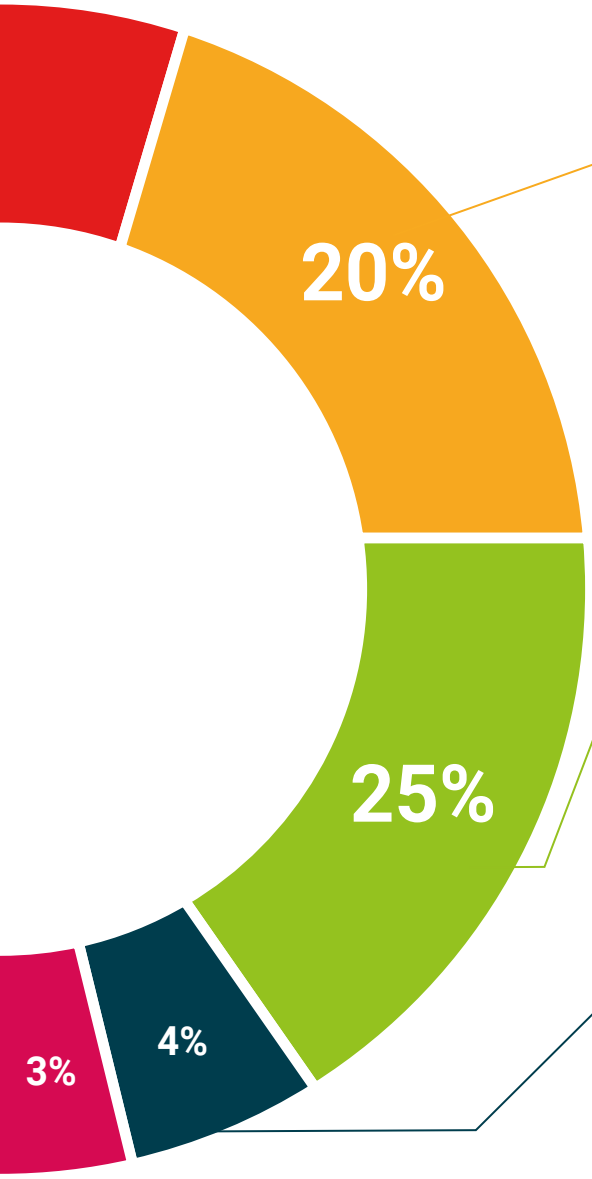
Practising Skills and Abilities

They will carry out activities to develop specific skills and abilities in each subject area. Exercises and activities to acquire and develop the skills and abilities that a specialist needs to develop in the context of the globalization that we are experiencing.

Additional Reading

Recent articles, consensus documents and international guidelines, among others. In TECH's virtual library, students will have access to everything they need to complete their course.





Case Studies

Students will complete a selection of the best case studies chosen specifically for this program. Cases that are presented, analyzed, and supervised by the best specialists in the world.

Interactive Summaries

The TECH team presents the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge.

This exclusive educational system for presenting multimedia content was awarded by Microsoft as a "European Success Story".

Testing & Retesting

We periodically evaluate and re-evaluate students' knowledge throughout the program, through assessment and self-assessment activities and exercises, so that they can see how they are achieving their goals.

06

Certificate

The Postgraduate Certificate in Big Data and Artificial Intelligence guarantees students, in addition to the most rigorous and up-to-date education, access to a Postgraduate Certificate issued by TECH Technological University.

Successfully complete this program and receive your university qualification without having to travel or fill out laborious paperwork"

This **Postgraduate Certificate in Big Data and Artificial Intelligence** contains the most complete and up-to-date program on the market.

After the student has passed the assessments, they will receive their corresponding **Postgraduate Certificate** issued by **TECH Technological University** via tracked delivery*.

The certificate issued by **TECH Technological University** will reflect the qualification obtained in the Postgraduate Certificate, and meets the requirements commonly demanded by labor exchanges, competitive examinations, and professional career evaluation committees.

Title: **Postgraduate Certificate in Big Data and Artificial Intelligence**

Official Nº of Hours: **150 h.**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Awards the following

CERTIFICATE

to

Mr./Ms. _____, with identification number _____.

For having passed and accredited the following program

POSTGRADUATE CERTIFICATE

in

Big Data and Artificial Intelligence

This is a qualification awarded by this University, equivalent to 150 hours, with a start date of dd/mm/yyyy and an end date of dd/mm/yyyy.

TECH is a Private Institution of Higher Education recognized by the Ministry of Public Education as of June 28, 2018.

June 17, 2020

Tere Guevara Navarro
Dean

Unique TECH Code: AFWORD23S techtitute.com/certificates

*Apostille Convention. In the event that the student wishes to have their paper certificate issued with an apostille, TECH EDUCATION will make the necessary arrangements to obtain it, at an additional cost.

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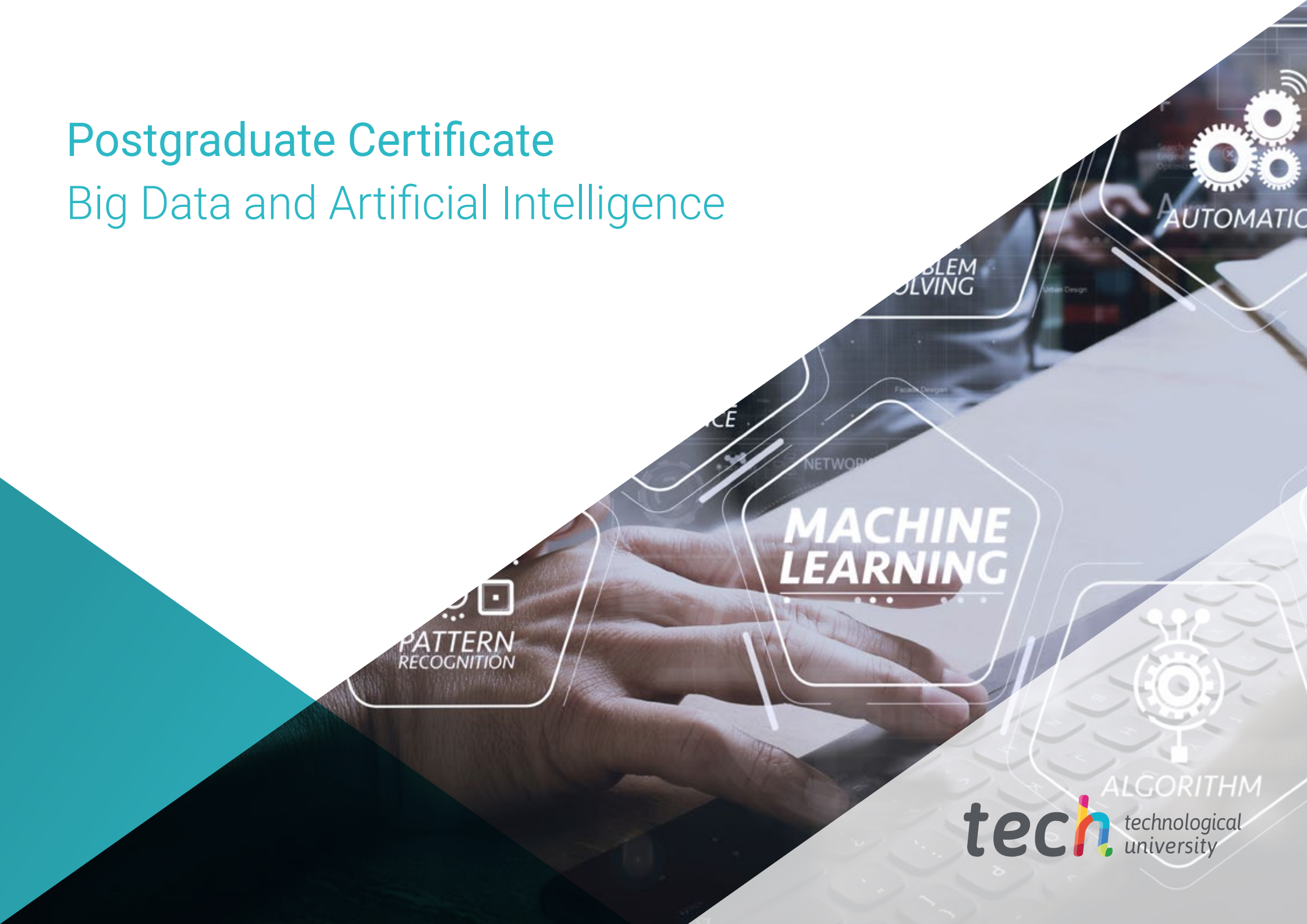

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