Postgraduate Certificate
Machine Learning in the Company

tech technological university

Postgraduate Certificate
Machine Learning in the Company

» Modality: **online**
» Duration: **6 weeks**
» Certificate: **TECH Technological University**
» Dedication: **16h/week**
» Schedule: **at your own pace**
» Exams: **online**
» Target Group: **Professionals wishing to update knowledge of advanced and cutting-edge IT technologies , with the aim of broadening their skills.**

Website: **www.techtitute.com/in/school-of-business/postgraduate-certificate/machine-learning-company**

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01
Welcome

This high-level course discusses the types of learning that exist and examines the different algorithms used for each type of learning depending on the objective we have in our data mining process.

In this program we will deepen in an important part of Artificial Intelligence such as machine learning. The objective of this program is to develop the entire data mining process with a focus on the machine learning process. The final topics focus on a particular method of machine learning, namely neural networks and their evolution to deep learning and their implementation in real applications.

Postgraduate Certificate in Machine Learning in the Company.
TECH Technological University

With the best developed distance learning systems, this Postgraduate Certificate will allow you to learn in a contextual way, learning in an adequate way the practical part you need"

Why Study at TECH?

TECH is the world's largest 100% online business school. It is an elite business school, with a model based on the highest academic standards. A world-class centre for intensive managerial skills training.

TECH is a university at the forefront of technology, and puts all its resources at the student's disposal to help them achieve entrepreneurial success"

At TECH Technological University

Innovation

The university offers an online learning model that combines the latest educational technology with the most rigorous teaching methods. A unique method with the highest international recognition that will provide students with the keys to develop in a rapidly-evolving world, where innovation must be every entrepreneur's focus.

"Microsoft Europe Success Story", for integrating the innovative, interactive multi-video system.

The Highest Standards

Admissions criteria at TECH are not economic. Students don't need to make a large investment to study at this university. However, in order to obtain a qualification from TECH, the student's intelligence and ability will be tested to their limits. The institution's academic standards are exceptionally high...

95% of TECH students successfully complete their studies

Networking

Professionals from countries all over the world attend TECH, allowing students to establish a large network of contacts that may prove useful to them in the future.

100,000+ executives trained each year

200+ different nationalities

Empowerment

Students will grow hand in hand with the best companies and highly regarded and influential professionals. TECH has developed strategic partnerships and a valuable network of contacts with major economic players in 7 continents.

500+ collaborative agreements with leading companies

Talent

This program is a unique initiative to allow students to showcase their talent in the business world. An opportunity that will allow them to voice their concerns and share their business vision.

After completing this program, TECH helps students show the world their talent.

Multicultural Context

While studying at TECH, students will enjoy a unique experience. Study in a multicultural context. In a program with a global vision, through which students can learn about the operating methods in different parts of the world, and gather the latest information that best adapts to their business idea.

TECH students represent more than 200 different nationalities.

TECH strives for excellence and, to this end, boasts a series of characteristics that make this university unique:

Learn with the best

In the classroom, TECH's teaching staff discuss how they have achieved success in their companies, working in a real, lively, and dynamic context. Teachers who are fully committed to offering a quality specialization that will allow students to advance in their career and stand out in the business world.

Teachers representing 20 different nationalities.

"At TECH you will have access to Harvard Business School case studies"

Analysis

TECH explores the student's critical side, their ability to question things, their problem-solving skills, as well as their interpersonal skills.

Academic Excellence

TECH offers students the best online learning methodology. The university combines the Relearning methodology (the most internationally recognized postgraduate learning methodology) with Harvard Business School case studies. A complex balance of traditional and state-of-the-art methods, within the most demanding academic framework.

Economy of Scale

TECH is the world's largest online university. It currently boasts a portfolio of more than 10,000 university postgraduate programs. And in today's new economy, **volume + technology = a ground-breaking price**. This way, TECH ensures that studying is not as expensive for students as it would be at another university.

Why Our Program?

Studying this TECH program means increasing the chances of achieving professional success in senior business management.

It is a challenge that demands effort and dedication, but it opens the door to a promising future. Students will learn from the best teaching staff and with the most flexible and innovative educational methodology.

We have highly qualified teachers and the most complete syllabus on the market, which allows us to offer you training of the highest academic level"

This program will provide students with a multitude of professional and personal advantages, particularly the following:

01

A significant career boost

By studying at TECH, students will be able to take control of their future and develop their full potential. By completing this program, students will acquire the skills required to make a positive change in their career in a short period of time.

70% of participants achieve positive career development in less than 2 years.

02

Develop a strategic and global vision of companies

TECH offers an in-depth overview of general management to understand how each decision affects each of the company's different functional areas.

Our global vision of companies will improve your strategic vision.

03

Consolidate the student's senior management skills

Studying at TECH means opening the doors to a wide range of professional opportunities for students to position themselves as senior executives, with a broad vision of the international environment.

You will work on more than 100 real senior management cases.

04

Take on new responsibilities

The program will cover the latest trends, advances and strategies, so that students can carry out their professional work in a changing environment.

45% of graduates are promoted internally.

05

Access to a powerful network of contacts

TECH connects its students to maximize opportunities. Students with the same concerns and desire to grow. Therefore, partnerships, customers or suppliers can be shared.

You will find a network of contacts that will be instrumental for professional development.

06

Thoroughly develop business projects

Students will acquire a deep strategic vision that will help them develop their own project, taking into account the different areas in companies.

20% of our students develop their own business idea.

07

Improve *soft* skills and management skills

TECH helps students apply and develop the knowledge they have acquired, while improving their interpersonal skills in order to become leaders who make a difference.

Improve your communication and leadership skills and enhance your career.

08

Be part of an exclusive community

Students will be part of a community of elite executives, large companies, renowned institutions, and qualified professors from the most prestigious universities in the world: the TECH Technological University community.

We give you the opportunity to train with a team of world renowned teachers.

04
Objectives

This program is designed to strengthen capacities in Machine Learning in the Company , in addition to developing new competencies and skills that will be essential in professional development. After the program, you will be equipped to make global decisions with an innovative perspective and an international vision.

A complete course of high interest for the IT professional, which will allow you to compete among the best prepared in the sector"

TECH makes the objectives of its students its own.
We work together to achieve them.
The **Postgraduate Certificate in Machine Learning in the Company** enables students to:

01 Examine the data mining process

02 Substantiate the types of machine learning

03 Analyze the appropriate machine learning techniques for each type of problem

04 Examine the current paradigms of Artificial Intelligence

05 Evaluate the skills acquired in the process of moving from information to knowledge

06 Develop the different types of machine learning

08 Compile the different implementations of the various machine learning methods

09 Determine the probabilistic reasoning models

07 Analyze the metrics and validation methods of different machine learning algorithms

10 Demonstrate knowledge of different machine learning algorithms

05
Structure and Content

The Postgraduate Certificate in Machine Learning in the Company is a tailor-made program that is delivered in a 100% online format so that the student can choose the time and place that best suits his or her availability, schedule and interests. A program that takes place over 6 weeks and is intended to be a unique and stimulating experience that will lay the foundations for professional success.

In this Postgraduate Certificate you will be able to combine the efficiency of the most advanced learning methods, with the flexibility of a program created to adapt to your possibilities of dedication, without losing quality"

Syllabus

The Postgraduate Certificate in Computer Machine Learning in the Company of TECH Technological University is an intensive program that prepares the student to face challenges and business decisions in the field of Machine Learning in the Company .

The content of the Postgraduate Certificate in Machine Learning in the Company is designed to promote the development of skills that enable more rigorous decision making in uncertain environments.

Over the course of 150 hours, the student analyzes a plethora of practical cases through individual and teamwork. It is, therefore, an authentic immersion in real business situations.

This Postgraduate Certificate deals in depth with the world of computer science in the business environment, and is designed to train professionals who understand the Diploma in Machine Learning in the Company from a strategic, international and innovative perspective.

A plan designed for students, focused on their professional improvement and that prepares them to achieve excellence in the field of business management and administration. A program that understands both yours and your company's needs through innovative content based on the latest trends, and supported by the best educational methodology and an exceptional faculty, which will provide you with the skills to solve critical situations, creatively and efficiently.

This Postgraduate Certificate takes place over 2 weeks and is divided into 1 module:

Module 1	Automatic Learning

Where, When and How is it Taught?

It can be done completely online, from wherever and whenever you want and in a connected way, attending workshops and virtual conferences.

A unique, key, and decisive educational experience to boost your professional development and make the definitive leap.

Module 1. Automatic Learning

1.1. Knowledge in Databases
1.1.1. Data Pre-Processing
1.1.2. Analysis
1.1.3. Interpretation and Evaluation of the Results

1.2. Machine Learning
1.2.1. Supervised and Unsupervised Learning
1.2.2. Reinforcement Learning
1.2.3. Semi-Supervised Learning Other Learning Models

1.3. Classification
1.3.1. Decision Trees and Rule-Based Learning
1.3.2. Support Vector Machines (SVM) and K-Nearest Neighbour (KNN) Algorithms
1.3.3. Metrics for Sorting Algorithms

1.4. Regression
1.4.1. Linear and Logistic Regression
1.4.2. Non-Linear Regression Models
1.4.3. Time Series Analysis
1.4.4. Metrics for Regression Algorithms

1.5. Clustering
1.5.1. Hierarchical Grouping
1.5.2. Partitional Grouping
1.5.3. Metrics for Clustering Algorithms

1.6. Association Rules
1.6.1. Measures of Interest
1.6.2. Rule Extraction Methods
1.6.3. Metrics for Association Rule Algorithms

1.7. Multiclassifiers
1.7.1. Bootstrap Aggregation or Bagging
1.7.2. Random Forests Algorithm
1.7.3. Boosting Algorithm

1.8. Probabilistic Reasoning Models
1.8.1. Probabilistic Reasoning
1.8.2. Bayesian Networks or Belief Networks
1.8.3. Hidden Markov Models

1.9. Multilayer Perceptron
1.9.1. Neural Network:
1.9.2. Machine Learning with Neural Networks
1.9.3. Gradient Descent, Backpropagation and Activation Functions
1.9.4. Implementation of an Artificial Neural Network

1.10. Deep Learning
1.10.1. Deep Neural Networks. Introduction
1.10.2. Convolutional Networks
1.10.3. Sequence Modeling
1.10.4. Tensorflow and Pytorch

Comprehensive yet specific, this program will take you to the concrete knowledge that the computer engineer needs to compete among the best in the industry"

Methodology

This training program offers 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"

At TECH Business School we use the Harvard case method

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

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

We are the first online university to combine Harvard Business School case studies with a 100% online learning system based on repetition.

A learning method that is different and innovative

This intensive program from TECH Technological University School of Business prepares students to face all the challenges in this area, both nationally and internationally. We are committed to promoting personal and professional growth, the best way to strive for success, that is why TECH uses Harvard case studies, with which we have a strategic agreement that allows us to provide our students with material from the best university the world.

You will learn, through collaborative activities and real cases, how to solve complex situations in real business environments"

The case method has been the most widely used learning system among the world's leading business 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 we face in the case method, an action-oriented learning method. Throughout the program, the studies will be presented with multiple real cases. They must integrate all their knowledge, research, argue and defend their ideas and decisions.

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

Relearning Methodology

Our university is the first in the world to combine Harvard University case studies with a 100% online learning system based on repetition, which combines different teaching elements in each lesson.

We enhance Harvard case studies with the best 100% online teaching method: Relearning.

Our online system will allow you to organize your time and learning pace, adapting it to your schedule. You will be able to access the contents from any device with an internet connection.

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 online business school is the only one in the world licensed to incorporate 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.

01 learning from evidence

02 relearning from evidence

03 testing

04 learning from an expert

05 neurocognitive context dependent learning

06 Von-Restorff effect

07 case based learning through storytelling

08 competencies testing (retesting)

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. With this methodology we have 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, markets, and financial 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 specialization, developing a critical mindset, defending arguments, and contrasting opinions: a direct equation to 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.

Management Skills Exercises

They will carry out activities to develop specific executive competencies in each thematic area. Practices and dynamics to acquire and develop the skills and abilities that a high-level manager needs to develop in the context of the globalization we live in.

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.

30%

10%

8%

3%

30%

15%

4%

Case Studies

They will complete a selection of the best business cases used at Harvard Business School. Cases that are presented, analyzed, and supervised by the best senior management specialists in Latin America.

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 multimedia content presentation training Exclusive system 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 your goals.

Our Students' Profiles

The Postgraduate Certificate is aimed at professionals who wish to update their knowledge of advanced and cutting-edge computer technologies, with the aim of broadening their skills.

This program uses a multidisciplinary approach as the students have a diverse set of academic profiles and represent multiple nationalities

The Postgraduate Certificate is also open to professionals who, being university graduates in any area, have two years of work experience in the field of Machine Learning in the Company .

"

A highly qualified Postgraduate Certificate that will allow the student to advance quickly and steadily in the acquisition of knowledge, with the scientific rigor of a global quality teaching"
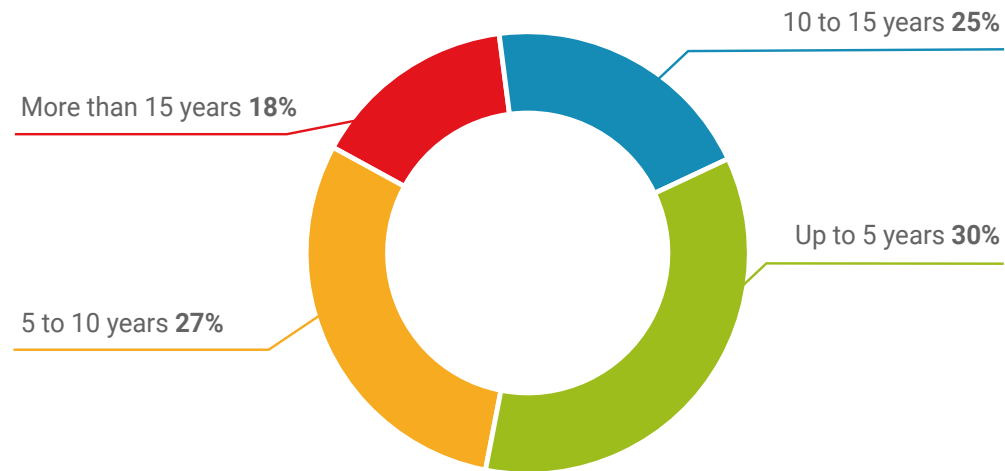
Average Age

Between **35** and **45** years old

Years of Experience

More than 15 years **18%**

5 to 10 years **27%**

10 to 15 years **25%**

Up to 5 years **30%**

Training

Business **22%**

Informatics **35%**

Engineering **18%**

Social Sciences **17%**

Others **8%**

Academic Profile

Information Technology **32%**

Business **21%**

Entrepreneurs **20%**

Other **27%**
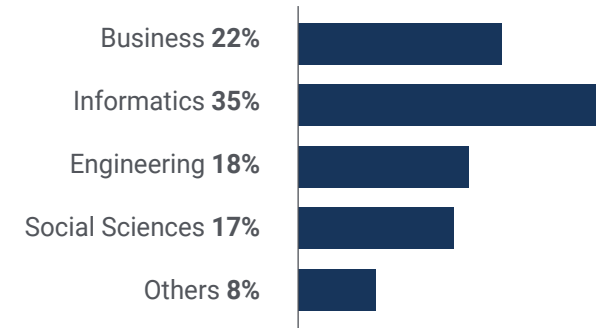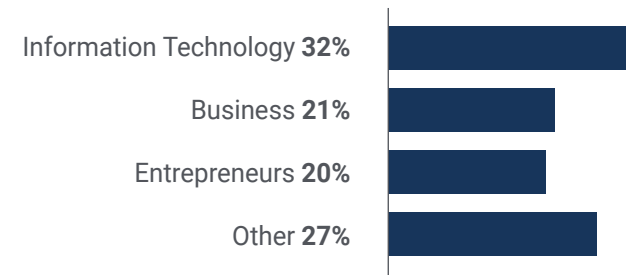
Geographical Distribution

USA **12%**
Spain **39%**
Mexico **21%**
Colombia **7%**
Argentina **10%**
Chile **3%**
Peru **2%**
Others **6%**
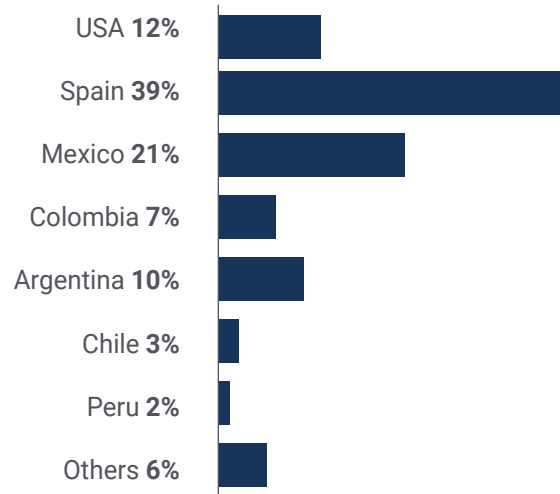
Fernando Morales López

Data Entry Technician

"Studying this program with TECH has been a before and after in my career. It is essential to be up to date with data protection in any company and with this Postgraduate Certificate I have been able to update all the documentation and improve the processes that until now I did not know I had to do. I will certainly continue to specialize with them"

Course Management

In its maxim of offering an elite education for all, TECH counts on renowned professionals so that the student acquires a solid knowledge in Advanced Information Technology. This Postgraduate Certificate has a highly qualified team with extensive experience in the sector, which will offer the best tools for the student in the development of their skills during the Postgraduate Certificate. In this way, students have the guarantees they need to specialise at an international level in a booming sector that will catapult them to professional success.

All the subjects and areas of knowledge have been compiled in a complete and absolutely up-to-date syllabus, in order to bring the student to the highest theoretical and practical level"

Management

Dr. Peralta Martín-Palomino, Arturo

- CEO and CTO at Prometeus Global Solutions
- CTO in Korporate Technologies
- CTO in AI Shephers GmbH
- Doctorate in Psychology from the University of CastillaLa
- PhD in Economics, Business and Finance from the Camilo José Cela University. Outstanding Award in her PhD
- Doctorate in Psychology from the Castilla la Mancha University
- Master's Degree in Advanced Information Technologies from the University of Castilla la Mancha
- Master MBA+E (Master's Degree in Business Administration and Organisational Engineering) from the University of Castilla la Mancha
- Associate lecturer, teaching undergraduate and master's degrees in Computer Engineering at the University of Castilla la Mancha
- Professor of the Master in Big Data and Data Science at the International University of Valencia
- Lecturer of the Master's Degree in Industry 4.0 and the Master's Degree in Industrial Design and Product Development
- Member of the SMILe Research Group of the University of Castilla la Mancha

Professors

Mr. Montoro Montarroso, Andrés

- ◆ Researcher in the SMILe Group at the University of Castilla-La Mancha
- ◆ Data Scientist at Prometeus Global Solutions
- ◆ Graduate in Computer Engineering from the University of Castilla-La Mancha
- ◆ Master's Degree in Data Science and Computer Engineering from the University of Granada. (2021)
- ◆ Guest lecturer in the subject of Knowledge-Based Systems at the Escuela Superior de Informática de Ciudad Real, Giving the Lecture "Advanced Artificial Intelligence Techniques: Search and Analysis of Potential Social Media Radicals". (2021)
- ◆ Guest lecturer in the subject of Data Mining at the Escuela Superior de Informática de Ciudad Real giving the lecture: "Applications of Natural Language Processing: Fuzzy Logic to the analysis of messages in social networks"
- ◆ Speaker at the Seminar on Corruption Prevention in Public Administrations and Artificial Intelligence. Faculty of Law and Social Sciences of Toledo. Conference entitled "Artificial Intelligence Techniques". Speaker at the first International Seminar on Administrative Law and Artificial Intelligence (DAIA). Organised by Centro de Estudios Europeos Luis Ortega Álvarez and Institut de Recerca TransJus. Conference entitled "Sentiment Analysis for the prevention of hate speech on social media"

09
Impact on Your Career

TECH is aware that taking a program of these characteristics is a great economic, professional and, of course, personal investment. The ultimate goal of this great effort should be to achieve professional growth. Here you will find great possibilities to achieve it. For this, we have the perfect equation for a quality specialization: a highly up-to-date syllabus and internationally renowned teachers. Undoubtedly, a unique opportunity that will help to boost your career in a short period of time.

tech

A unique opportunity to specialize in the hands of renowned professionals with extensive experience in the sector"

Are you ready to take the leap?
Excellent professional development awaits you.

With this program, the student will be able to advance drastically in his or her profession, although there is no doubt that, in order to do so, he or she will have to make an investment in different areas, such as economic, professional and personal.

However, the goal is to improve in your professional life and, to do so, it is necessary to fight.

The best way to achieve professional change is to increase your skills. So don't stop studying at TECH.

Thanks to this programme you will receive a large number of job offers with which you will be able to start your professional growth.

When the change occurs

During the program	During the first year	After 2 years
23%	**21%**	**56%**

Type of change

Internal Promotion **41%**

Change of Company **35%**

Entrepreneurship **24%**
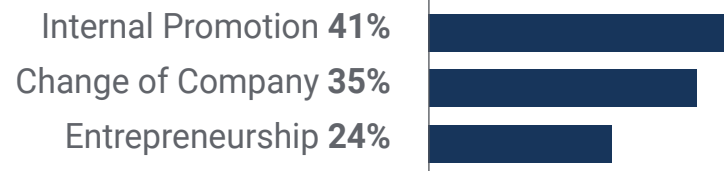
Salary increase

This program represents a salary increase of more than **25%** for our students.

Salary before	A salary increase of	Salary after
$32,900	**25.22%**	**$41,200**

10
Benefits for Your Company

The Postgraduate Certificate in Machine Learning in the Company contributes to elevate the organization's talent to its maximum potential through the training of high-level leaders.

Participating in this Postgraduate Certificate is a unique opportunity to access a powerful network of contacts in which to find future professional partners, customers or suppliers.

" *In this Postgraduate Certificate you will be able to combine the efficiency of the most advanced learning methods, with the flexibility of a program created to adapt to your possibilities of dedication, without losing quality"*

Developing and retaining talent in companies is the best long-term investment.

01

Intellectual Capital and Talent Growth

The professional will introduce the company to new concepts, strategies, and perspectives that can bring about significant changes in the organization.

02

Retaining high-potential executives to avoid talent drain

This program strengthens the link between the company and the professional and opens new avenues for professional growth within the company.

03

Building agents of change

You will be able to make decisions in times of uncertainty and crisis, helping the organization overcome obstacles.

04

Increased international expansion possibilities

Thanks to this program, the company will come into contact with the main markets in the world economy.

05

Project Development

The manager can work on a current project or develop new projects in the field of R&D or Business Development within their company.

06

Increased competitiveness

This Postgraduate Certificate will equip students with the skills to take on new challenges and drive the organization forward.

11
Certificate

The Postgraduate Certificate in Machine Learning in the Company guarantees you, in addition to the most rigorous and updated training, access to a Postgraduate Certificate issued by TECH Technological University.

Successfully complete this training program and receive your certificate without travel or laborious paperwork"

This **Postgraduate Certificate in Machine Learning in the Company** contains the most complete and updated program on the market.

After the student has passed the evaluations, they will receive their corresponding **Postgraduate Certificate** issued by **TECH Technological University** by 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 Machine Learning in the Company**

Official Nº of Hours: **150 h.**

tech technological university

Awards the following

CERTIFICATE

to

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

For having passed and accredited the following program

POSTGRADUATE CERTIFICATE

in

Machine Learning in the Company

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

This qualification must always be accompanied by the university degree issued by the competent authority to practice professionally in each country. 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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