Postgraduate Certificate

Cybersecurity and Modern Threat Analysis with ChatGPT

tech global university

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Postgraduate Certificate
Cybersecurity and Modern Threat Analysis with ChatGPT

- Modality: **online**
- Duration: **6 weeks**
- Certificate: **TECH Global University**
- Accreditation: **6 ECTS**
- Schedule: **at your own pace**
- Exams: **online**

Website: www.techtitute.com/us/information-technology/postgraduate-certificate/cybersecurity-modern-threat-analysis-chatgpt

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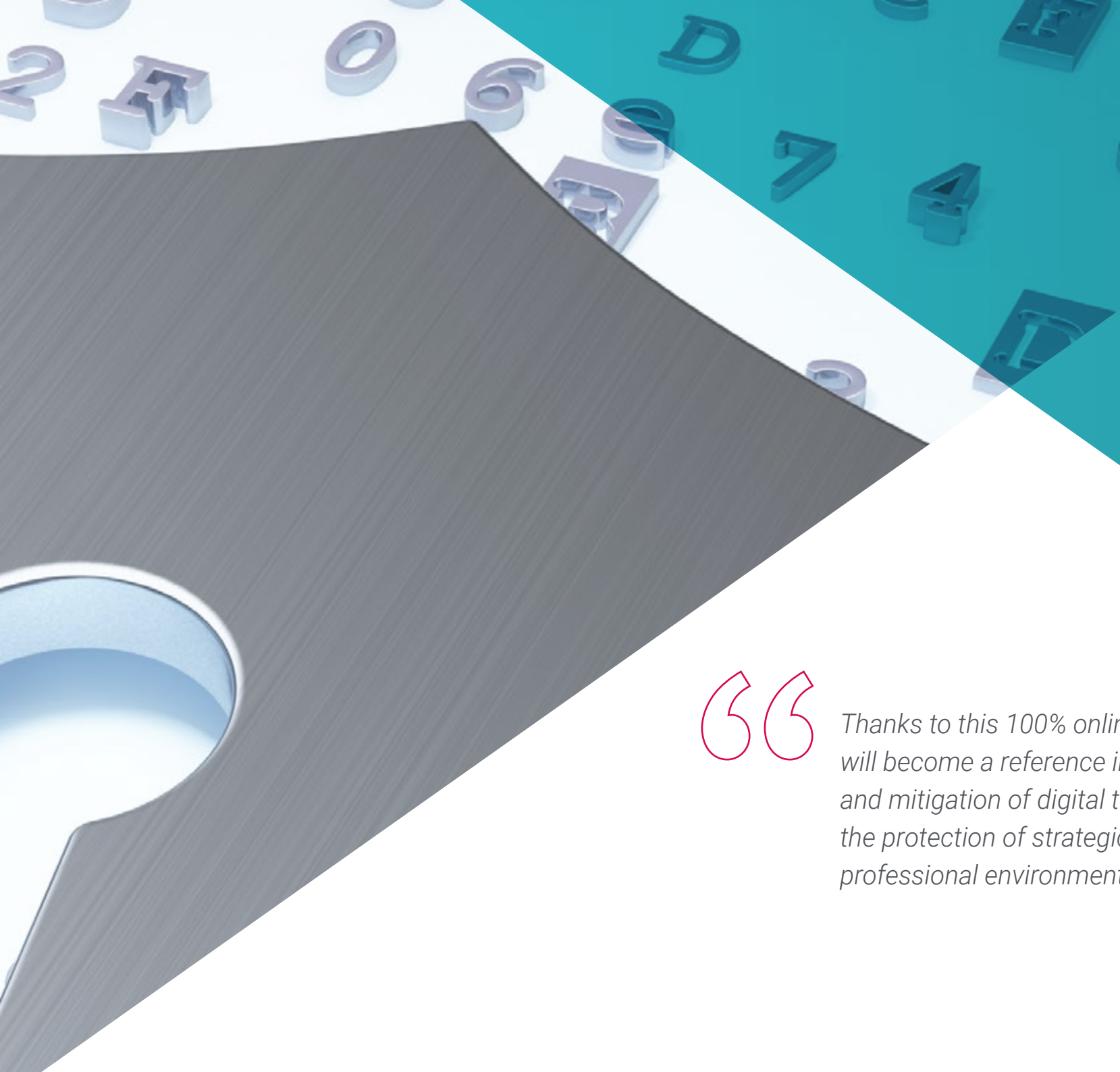
Introduction

With the advance of digitalization and connectivity, cyber threats have become more diversified and sophisticated, with attacks such as phishing and ransomware, whose economic and operational impact is growing. In this scenario, Artificial Intelligence is positioned as a key tool to analyze large volumes of data in real time and identify anomalous patterns that indicate cyber-attacks. For this reason, TECH presents a university program designed for computer scientists to master the use of ChatGPT in risk analysis, threat assessment and the development of security policies. All this, in a 100% online format and with the most innovative methodology: Relearning.



Thanks to this 100% online program, you will become a reference in the detection and mitigation of digital threats, ensuring the protection of strategic assets in any professional environment"

Cybersecurity, understood as the set of strategies, processes and tools aimed at protecting information systems against threats and attacks, has become an essential pillar in the digital era. According to data from the World Economic Forum, cybercrime represents one of the main threats to global stability, generating costs of up to eight trillion dollars. In addition, the rapid increase in connected devices, the rise of teleworking and the digitization of processes have significantly expanded the attack surfaces, exposing sensitive data and critical assets to unprecedented risks.

Faced with this challenge, Artificial Intelligence emerges as an innovative tool that allows for the efficient detection, prevention and mitigation of cyber threats. It is in this context that this TECH Postgraduate Certificate arises, designed to provide a comprehensive perspective on modern cyber threats, integrating the CIA model with advanced digital tools and exploring the potential of ChatGPT in the identification of vulnerabilities, risk assessment and simulation of attacks under realistic scenarios.

It also addresses security in IoT devices, strategies for malware detection and mitigation, and the identification of common cyber-attacks such as phishing and social engineering. In addition, it delves into the design of cybersecurity policies adapted to Artificial Intelligence and the implementation of practical simulations to strengthen the critical skills of computer scientists. This academic approach ensures a complete and practical preparation, aligned with the demands of a constantly evolving professional sector.

Being a 100% online program, professionals will only need an electronic device with Internet access, be it a cell phone, computer or tablet, which will allow them to easily access the Virtual Campus. Additionally, it is supported by an outstanding teaching team and relies on the innovative teaching methodology of Relearning, which through the repetition of key concepts ensures a more effective and lasting acquisition of knowledge.

This **Postgraduate Certificate in Cybersecurity and Modern Threat Analysis with ChatGPT** 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 risk analysis, threat management and advanced AI applications in the professional environment
- The graphic, schematic and eminently practical contents with which it is conceived gather scientific and practical information on those disciplines that are indispensable for professional practice
- Practical exercises where the self-assessment process can be carried out 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

You will implement ChatGPT as an advanced tool to assess risks and develop innovative Cybersecurity strategies"

You will be immersed in real cyber-attack scenarios through advanced simulations, which will repair you to act accurately against complex threats in virtual ecosystems"

You will master advanced techniques to identify phishing and social engineering attacks, helping to protect sensitive data and business systems.

You will optimize digital protection processes through the application of Artificial Intelligence and customized strategies.

The program's teaching staff includes professionals from the sector who contribute their work experience to this specializing 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 course. For this purpose, students will be assisted by an innovative interactive video system created by renowned experts.

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Syllabus

The curriculum of this program is structured around the most critical and current aspects of Cybersecurity, from the fundamentals of the CIA model to advanced analysis of threats such as malware and ransomware. Throughout this academic itinerary, computer scientists will delve into the different practical tools for vulnerability detection, protection of IoT devices and simulation of attack scenarios, incorporating Artificial Intelligence to solve complex challenges in a constantly evolving digital environment.

You will cover the fundamentals of Cybersecurity to advanced techniques to mitigate modern threats, through interactive videos and specialized briefings, prepared by experts"

Module 1. Cybersecurity and Modern Threat Analysis with ChatGPT

1.1. Introduction to Cybersecurity: Current Threats and the Role of Artificial Intelligence
- 1.1.1. Definition and Basic Concepts of Cybersecurity
- 1.1.2. Types of Modern Cybersecurity Threats
- 1.1.3. Role of Artificial Intelligence in the Evolution of Cybersecurity

1.2. Confidentiality, Integrity and Availability (CIA) in the Age of Artificial Intelligence
- 1.2.1. Fundamentals of the CIA Model in Cybersecurity
- 1.2.2. Security Principles Applied in the AI Context
- 1.2.3. CIA Challenges and Considerations in Artificial Intelligence-Driven Systems

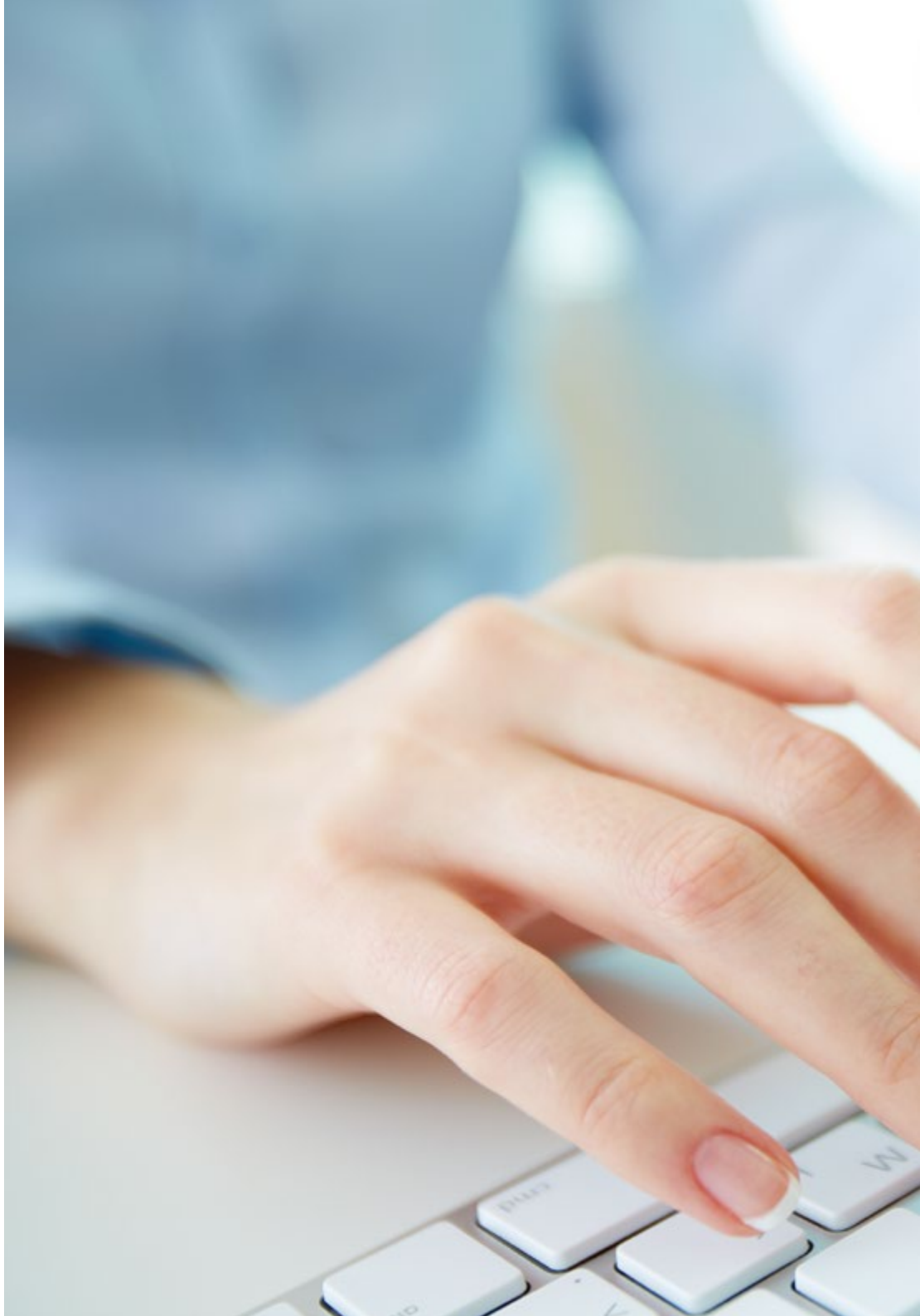
1.3. Use of ChatGPT for Risk Analysis and Threat Scenarios
- 1.3.1. Fundamentals of Risk Analysis in Cybersecurity
- 1.3.2. ChatGPT's Ability to Identify and Evaluate Threat Scenarios
- 1.3.3. Benefits and Limitations of Risk Analysis with Artificial Intelligence

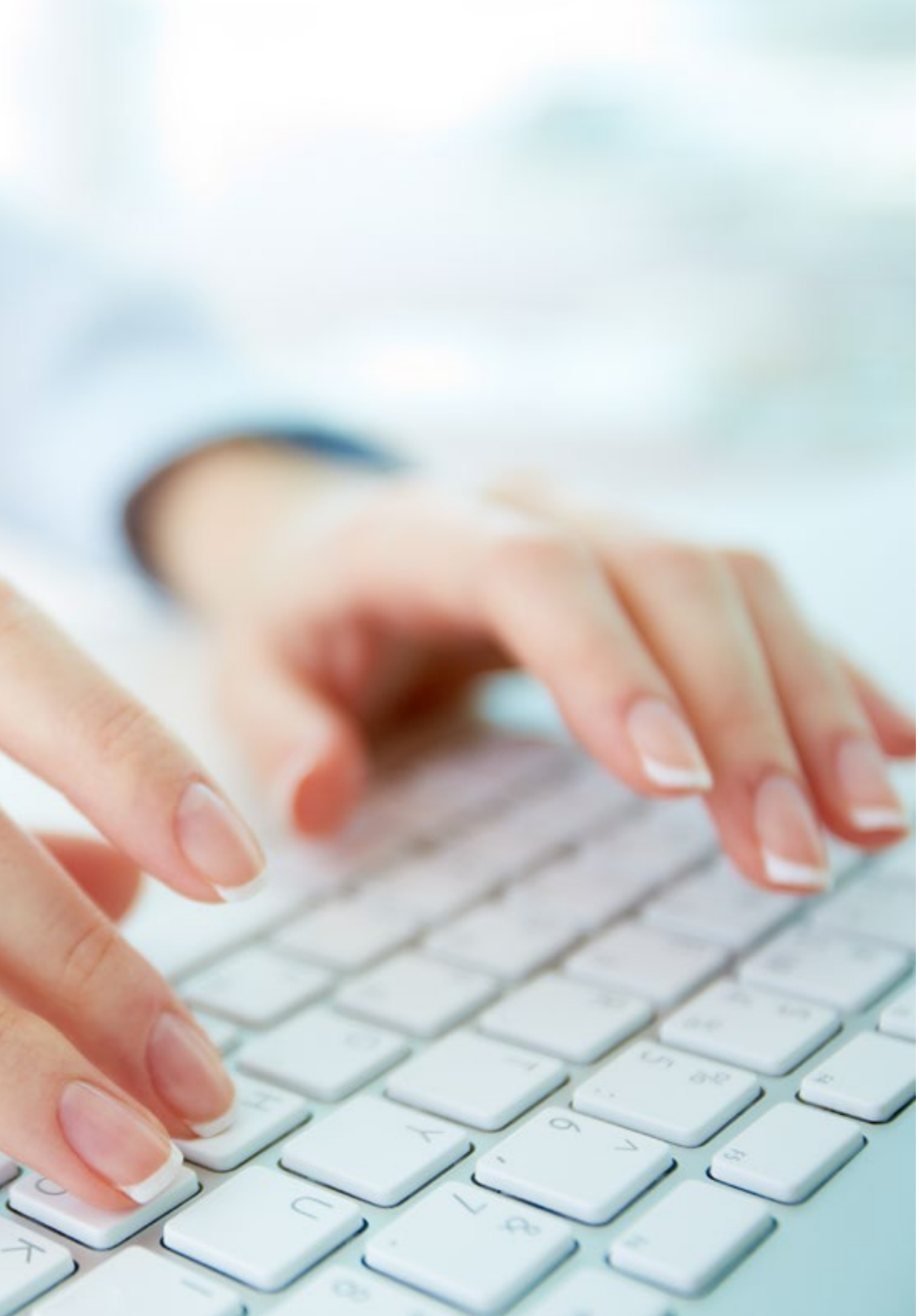
1.4. ChatGPT in the Detection of Critical Vulnerabilities
- 1.4.1. Principles of Vulnerability Detection in Information Systems
- 1.4.2. ChatGPT Functionalities to Support Vulnerability Detection
- 1.4.3. Ethical and Security Considerations When Using Artificial Intelligence in Fault Detection

1.5. AI-Assisted Analysis of Malware and Ransomware
- 1.5.1. Basic Principles of Malware and Ransomware Analysis
- 1.5.2. Artificial Intelligence Techniques Applied in the Identification of Malicious Code
- 1.5.3. Technical and Operational Challenges in AI-Assisted Malware Analysis

1.6. Identification of Common Attacks with Artificial Intelligence: Phishing, Social Engineering and Exploitation
- 1.6.1. Classification of Attacks: Phishing, Social Engineering, and Exploitation
- 1.6.2. AI Techniques for Identification and Analysis of Common Attacks
- 1.6.3. Difficulties and Limitations of Artificial Intelligence Models for Attack Detection

1.7. ChatGPT in Cyberthreat Training and Simulation
- 1.7.1. Fundamentals of Threat Simulation for Cybersecurity Training
- 1.7.2. ChatGPT Capabilities for Designing Simulation Scenarios
- 1.7.3. Benefits of Threat Simulation as a Training Tool





1.8. Cyber Security Policies with Artificial Intelligence Recommendations
- 1.8.1. Principles for Cyber Security Policy Formulation
- 1.8.2. Role of Artificial Intelligence in Generating Security Recommendations
- 1.8.3. Key Components in Artificial Intelligence Oriented Security Policies

1.9. Security in IoT Devices and the Role of Artificial Intelligence
- 1.9.1. Fundamentals of Internet of Things (IoT) Security
- 1.9.2. Artificial Intelligence Capabilities to Mitigate Vulnerabilities in IoT Devices
- 1.9.3. Specific Artificial Intelligence Challenges and Considerations for IoT Security

1.10. Threat Assessment and Responses Assisted by Artificial Intelligence Tools
- 1.10.1. Cybersecurity Threat Assessment Principles
- 1.10.2. Characteristics of Automated Artificial Intelligence Responses
- 1.10.3. Critical Factors in the Effectiveness of Cyber Responses with Artificial Intelligence

You will tackle the most demanding technology challenges, such as detecting critical vulnerabilities and mitigating advanced cyber-attacks positioning yourself as a leader in the field of Digital Security"

03

Teaching Objectives

This TECH program provides the computer scientist with the necessary skills to face the current challenges in the field of Cybersecurity. In this way, they will acquire key skills to identify and mitigate risks in information systems, protect IoT devices and manage complex threats such as social engineering attacks. In addition, you will master artificial intelligence-based tools, such as ChatGPT, to design innovative strategies, assess vulnerabilities and respond to critical scenarios efficiently and accurately.

You will develop advanced skills for risk assessment in critical infrastructures, ensuring the operational continuity of digital systems"

General Objectives

- Understand the fundamentals and principles of cybersecurity, including the CIA model, and its application in modern digital environments
- Analyze and assess risks in information systems to identify critical vulnerabilities and establish effective mitigation strategies
- Design and implement cybersecurity policies tailored to the needs of advanced technology infrastructures and enterprise environments
- Manage security in IoT devices by identifying specific risks and implementing effective protective measures
- Delve into techniques for detecting and analyzing malware and ransomware, optimizing the ability to respond to these types of threats
- Identify and counter common attacks, such as phishing and social engineering, through hands-on approaches and AI-based strategies
- Integrate theoretical and practical learning to address real-world scenarios in the field of Cybersecurity
- Acquire an ethical and responsible approach to Cybersecurity management, ensuring regulatory compliance and sustainability in the use of advanced technological tools

Specific Objectives

- Understand the fundamental concepts of Cybersecurity, including modern threats and the CIA model
- Use ChatGPT for risk analysis, vulnerability detection and simulation of threat scenarios
- Develop skills to design effective cybersecurity policies and protect IoT devices using Artificial Intelligence
- Implement advanced threat management strategies using generative Artificial Intelligence to anticipate potential attacks
- Assess the impact of modern threats on critical infrastructures using AI-assisted simulation techniques
- Design customized solutions for the protection of corporate networks, based on advanced Artificial Intelligence tools

You will master state-of-the-art techniques to identify phishing and social engineering attacks, helping to protect sensitive data and strategic IT systems"

04

Study Methodology

TECH is the world's first university to combine the **case study** methodology with **Relearning**, a 100% online learning system based on guided repetition.

This disruptive pedagogical strategy has been conceived to offer professionals the opportunity to update their knowledge and develop their skills in an intensive and rigorous way. A learning model that places students at the center of the educational process giving them the leading role, adapting to their needs and leaving aside more conventional methodologies.

TECH will prepare you to face new challenges in uncertain environments and achieve success in your career"

The student: the priority of all TECH programs

In TECH's study methodology, the student is the main protagonist.
The teaching tools of each program have been selected taking into account the demands of time, availability and academic rigor that, today, not only students demand but also the most competitive positions in the market.

With TECH's asynchronous educational model, it is students who choose the time they dedicate to study, how they decide to establish their routines, and all this from the comfort of the electronic device of their choice. The student will not have to participate in live classes, which in many cases they will not be able to attend. The learning activities will be done when it is convenient for them. They can always decide when and from where they want to study.

"At TECH you will NOT have live classes (which you might not be able to attend)"

The most comprehensive study plans at the international level

TECH is distinguished by offering the most complete academic itineraries on the university scene. This comprehensiveness is achieved through the creation of syllabi that not only cover the essential knowledge, but also the most recent innovations in each area.

By being constantly up to date, these programs allow students to keep up with market changes and acquire the skills most valued by employers. In this way, those who complete their studies at TECH receive a comprehensive education that provides them with a notable competitive advantage to further their careers.

And what's more, they will be able to do so from any device, pc, tablet or smartphone.

> *TECH's model is asynchronous, so it allows you to study with your pc, tablet or your smartphone wherever you want, whenever you want and for as long as you want"*

Case Studies and Case Method

The case method has been the learning system most used by the world's best business schools. Developed in 1912 so that law students would not only learn the law based on theoretical content, its function was also to present them with real complex situations. In this way, they could make informed decisions and value judgments about how to resolve them. In 1924, Harvard adopted it as a standard teaching method.

With this teaching model, it is students themselves who build their professional competence through strategies such as Learning by Doing or Design Thinking, used by other renowned institutions such as Yale or Stanford.

This action-oriented method will be applied throughout the entire academic itinerary that the student undertakes with TECH. Students will be confronted with multiple real-life situations and will have to integrate knowledge, research, discuss and defend their ideas and decisions. All this with the premise of answering the question of how they would act when facing specific events of complexity in their daily work.

Relearning Methodology

At TECH, case studies are enhanced with the best 100% online teaching method: Relearning.

This method breaks with traditional teaching techniques to put the student at the center of the equation, providing the best content in different formats. In this way, it manages to review and reiterate the key concepts of each subject and learn to apply them in a real context.

In the same line, and according to multiple scientific researches, reiteration is the best way to learn. For this reason, TECH offers between 8 and 16 repetitions of each key concept within the same lesson, presented in a different way, with the objective of ensuring that the knowledge is completely consolidated during the study process.

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.

A 100% online Virtual Campus with the best teaching resources

In order to apply its methodology effectively, TECH focuses on providing graduates with teaching materials in different formats: texts, interactive videos, illustrations and knowledge maps, among others. All of them are designed by qualified teachers who focus their work on combining real cases with the resolution of complex situations through simulation, the study of contexts applied to each professional career and learning based on repetition, through audios, presentations, animations, images, etc.

The latest scientific evidence in the field of Neuroscience points to the importance of taking into account the place and context where the content is accessed before starting a new learning process. Being able to adjust these variables in a personalized way helps people to remember and store knowledge in the hippocampus to retain it in the long term. This is a model called Neurocognitive context-dependent e-learning that is consciously applied in this university qualification.

In order to facilitate tutor-student contact as much as possible, you will have a wide range of communication possibilities, both in real time and delayed (internal messaging, telephone answering service, email contact with the technical secretary, chat and videoconferences).

Likewise, this very complete Virtual Campus will allow TECH students to organize their study schedules according to their personal availability or work obligations. In this way, they will have global control of the academic content and teaching tools, based on their fast-paced professional update.

"The online study mode of this program will allow you to organize your time and learning pace, adapting it to your schedule"

The effectiveness of the method is justified by four fundamental achievements:

1. Students who follow this method not only achieve the assimilation of concepts, but also a development of their mental capacity, through exercises that assess real situations and the application of knowledge.
2. Learning is solidly translated into practical skills that allow the student to better integrate into the real world.
3. Ideas and concepts are understood more efficiently, given that the example situations are based on real-life.
4. Students like to feel that the effort they put into their studies is worthwhile. This then translates into a greater interest in learning and more time dedicated to working on the course.

The university methodology top-rated by its students

The results of this innovative teaching model can be seen in the overall satisfaction levels of TECH graduates.

The students' assessment of the quality of teaching, quality of materials, course structure and objectives is excellent. Not surprisingly, the institution became the best rated university by its students on the Global Score review platform, obtaining a 4.9 out of 5.

Access the study contents from any device with an Internet connection (computer, tablet, smartphone) thanks to the fact that TECH is at the forefront of technology and teaching.

You will be able to learn with the advantages that come with having access to simulated learning environments and the learning by observation approach, that is, Learning from an expert.

As such, the best educational materials, thoroughly prepared, will be available in this program:

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.

This content is then adapted in an audiovisual format that will create our way of working online, with the latest techniques that allow us to offer you high quality in all of the material that we provide you with.

Practicing Skills and Abilities

You will carry out activities to develop specific competencies and skills in each thematic field. Exercises and activities to acquire and develop the skills and abilities that a specialist needs to develop within the framework of the globalization we live in.

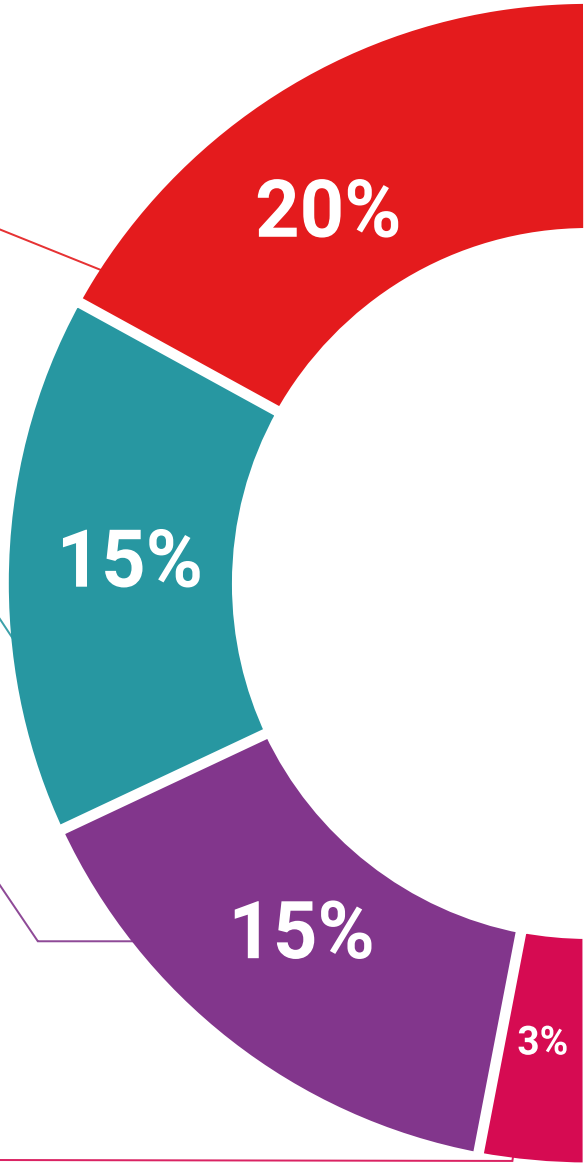
Interactive Summaries

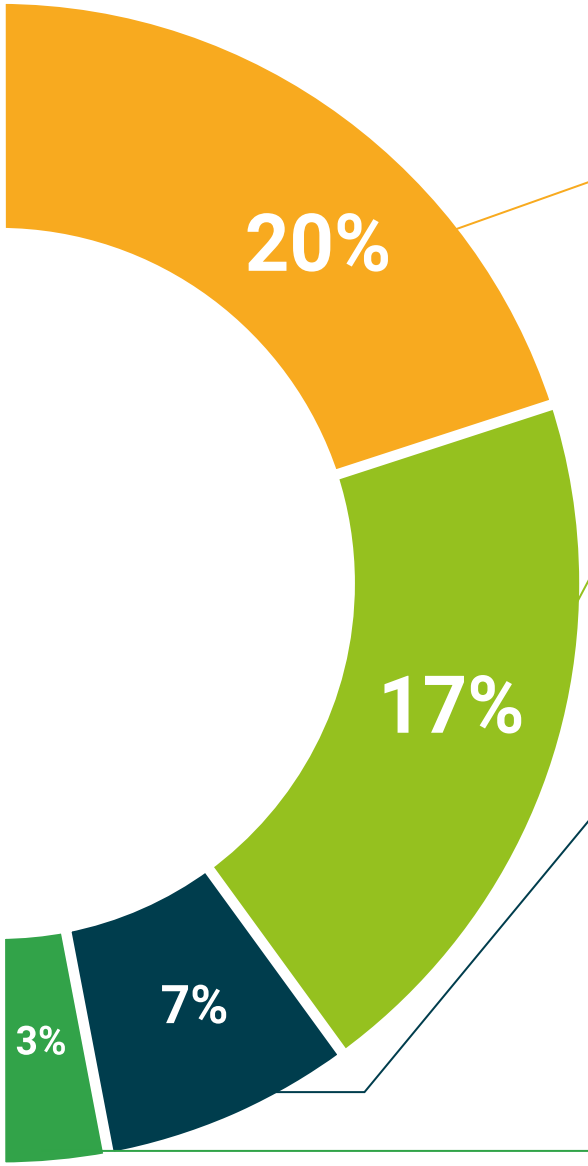
We present the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge.

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

Additional Reading

Recent articles, consensus documents, international guides... In our virtual library you will have access to everything you need to complete your education.





Case Studies

Students will complete a selection of the best case studies in the field. Cases that are presented, analyzed, and supervised by the best specialists in the world.

Testing & Retesting

We periodically assess and re-assess your knowledge throughout the program. We do this on 3 of the 4 levels of Miller's Pyramid.

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 for future difficult decisions.

Quick Action Guides

TECH offers the most relevant contents of the course in the form of worksheets or quick action guides. A synthetic, practical and effective way to help students progress in their learning.

05

Teaching Staff

The teaching team of this TECH Postgraduate Certificate is made up of experts in Cybersecurity and Artificial Intelligence, with a solid background in risk analysis, critical infrastructure protection and cyber threat management. Thanks to their professional and academic experience, these professionals guarantee a practical and updated teaching, focused on providing computer scientists with the necessary skills to face the challenges of the digital environment with innovative and effective strategies.

You will benefit from the experience of recognized experts in the use of tools such as ChatGPT to anticipate and neutralize cyber risks"

Management

Dr. Peralta Martín-Palomino, Arturo

- CEO and CTO at Prometeus Global Solutions
- CTO at Korporate Technologies
- CTO at AI Shepherds GmbH
- Consultant and Strategic Business Advisor at Alliance Medical
- Director of Design and Development at DocPath
- Doctorate in Psychology from the University of Castilla La Mancha
- Doctorate in Economics, Business and Finance from the Camilo José Cela University
- Doctorate in Psychology from University of Castilla La Mancha
- Master's Degree in Executive MBA from the Isabel I University
- Master's Degree in Sales and Marketing Management from the Isabel I University
- Expert Master's Degree in Big Data by Hadoop Training
- Master's Degree in Advanced Information Technologies from the University of Castilla La Mancha
- Member of: SMILE Research Group

Professors

Mr. Del Rey Sánchez, Alejandro

- Responsible for implementation of programs to improve tactical care in emergencies
- Degree in Industrial Organization Engineering
- Certification in Big Data and Business Analytics
- Certification in Microsoft Excel Advanced, VBA, KPI and DAX
- Certification in CIS Telecommunication and Information Systems

"All teachers in this program accumulate extensive experience, offering you an innovative perspective on the main advances in this field of study"

06

Certificate

The Postgraduate Certificate in Cybersecurity and Modern Threat Analysis with ChatGPT guarantees, in addition to the most accurate and up-to-date education, access to a Postgraduate Certificate issued by TECH Global University.

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

This private qualification will allow you to obtain a **Postgraduate Certificate in Cybersecurity and Modern Threat Analysis with ChatGPT** endorsed by **TECH Global University**, the world's largest online university.

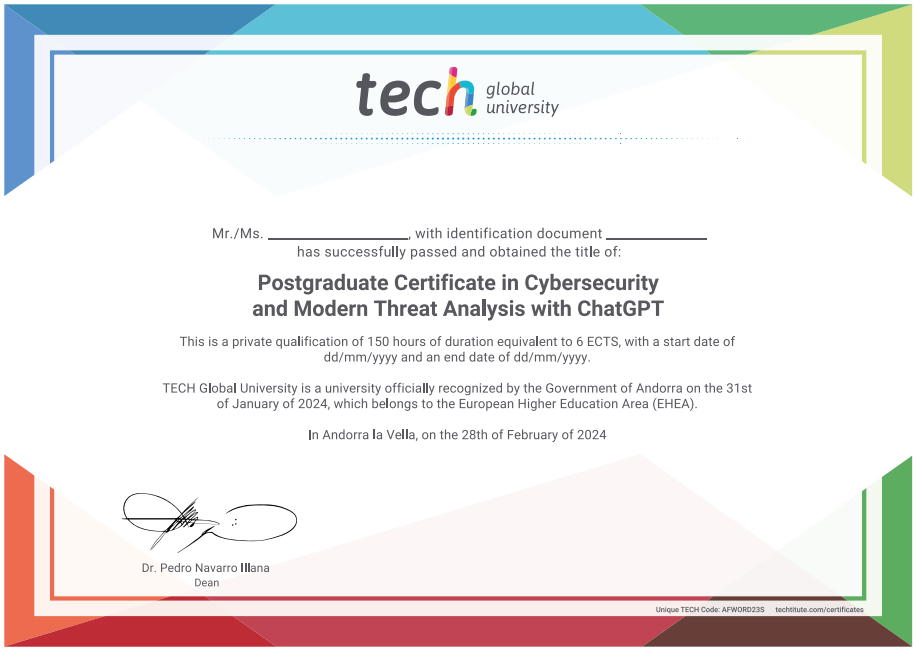
This **TECH Global University** private qualification, is a European program of continuing education and professional updating that guarantees the acquisition of competencies in its area of knowledge, providing a high curricular value to the student who completes the program.

Title: **Postgraduate Certificate in Cybersecurity and Modern Threat Analysis with ChatGPT**

Modality: **online**

Duration: **6 weeks**

Accreditation: **6 ECTS**



tech global university

Mr./Ms. _____, with identification document _____
has successfully passed and obtained the title of:

Postgraduate Certificate in Cybersecurity and Modern Threat Analysis with ChatGPT

This is a private qualification of 150 hours of duration equivalent to 6 ECTS, with a start date of dd/mm/yyyy and an end date of dd/mm/yyyy.

TECH Global University is a university officially recognized by the Government of Andorra on the 31st of January of 2024, which belongs to the European Higher Education Area (EHEA).

In Andorra la Vella, on the 28th of February of 2024

Dr. Pedro Navarro Illana
Dean

Unique TECH Code: AFWORD23S techtitute.com/certificates

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

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