Postgraduate Certificate

Integration of Speech Recognition Technologies in Machine Interpreting

tech global university

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Postgraduate Certificate

Integration of Speech Recognition Technologies in Machine Interpreting

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

Website: **www.techtitute.com/us/artificial-intelligence/postgraduate-certificate/integration-speech-recognition-technologies-machine-interpreting**

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01

Introduction

The integration of speech recognition technologies into machine interpreting is advancing rapidly, driven by advances in Artificial Intelligence. Applications such as WhatsApp have begun to incorporate real-time transcription and translation features, allowing users to convert voice notes into text and automatically translate them into other languages. This evolution not only facilitates communication between speakers of different languages, but also optimizes productivity in professional environments. In this context, TECH has created a fully online program that will adapt to graduates' work and personal schedules, using the innovative Relearning learning methodology at all times.

With this 100% online Postgraduate Certificate, you will optimize automatic interpretation systems, contributing to a more accessible and efficient communication, from customer service to education and health."

The integration of speech recognition technologies (RAV) in machine interpreting is revolutionizing access to and understanding of various languages, especially in multilingual environments. These technologies, powered by Artificial Intelligence, enable real-time transcription and translation, facilitating effective communication in sectors such as tourism, healthcare and international business.

This is how this Postgraduate Certificate was created, in which experts will develop essential skills to improve the accessibility of speech recognition systems, allowing a greater number of users to benefit from interpretations in various contexts, such as meetings, conferences and online events. This focus on accessibility will be fundamental, as it will seek to eliminate language barriers and promote the inclusion of people with different abilities and communication needs.

In addition, different methods and tools will be analyzed to refine recognition algorithms, ensuring that the results are more accurate and relevant to users. This optimization will not only impact the quality of the interpreted content, but will also enrich the user experience, making automatic interpretation a more effective and reliable tool.

Finally, intuitive interfaces will be designed and user feedback will be implemented to identify areas for improvement. In this sense, combining speech recognition technologies with a user-centric approach will not only provide the necessary technical skills, but will also foster a deep understanding of end-users' needs and expectations.

In this way, TECH has designed a comprehensive program completely online, which will only require an electronic device with an Internet connection to access all the educational resources. This will eliminate problems such as travel to a physical location and the need to follow a set schedule. Additionally, it will be based on the revolutionary Relearning methodology, focused on the repetition of fundamental concepts to guarantee an optimal and organic understanding of the contents.

This **Postgraduate Certificate in Integration of Speech Recognition Technologies in Machine Interpreting** 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 Artificial Intelligence applied to Translation and Interpreting
- 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

You will analyze new applications of speech recognition technology, expanding your ability to address complex interpreting challenges and facilitating a positive impact on the user experience"

You'll cover the latest trends and advances in speech recognition technology, as well as its application in machine interpreting, from the world's top digital university, according to Forbes: TECH"

You will develop skills to improve the accessibility of interpreting services, ensuring that a wider audience can benefit from them, thanks to an extensive library of innovative multimedia resources.

You will be equipped with the tools necessary to design and implement solutions that respond to the specific needs of your audiences, using the best teaching materials on the academic market today.

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 course. For this purpose, students will be assisted by an innovative interactive video system created by renowned experts in the field of educational coaching with extensive experience.

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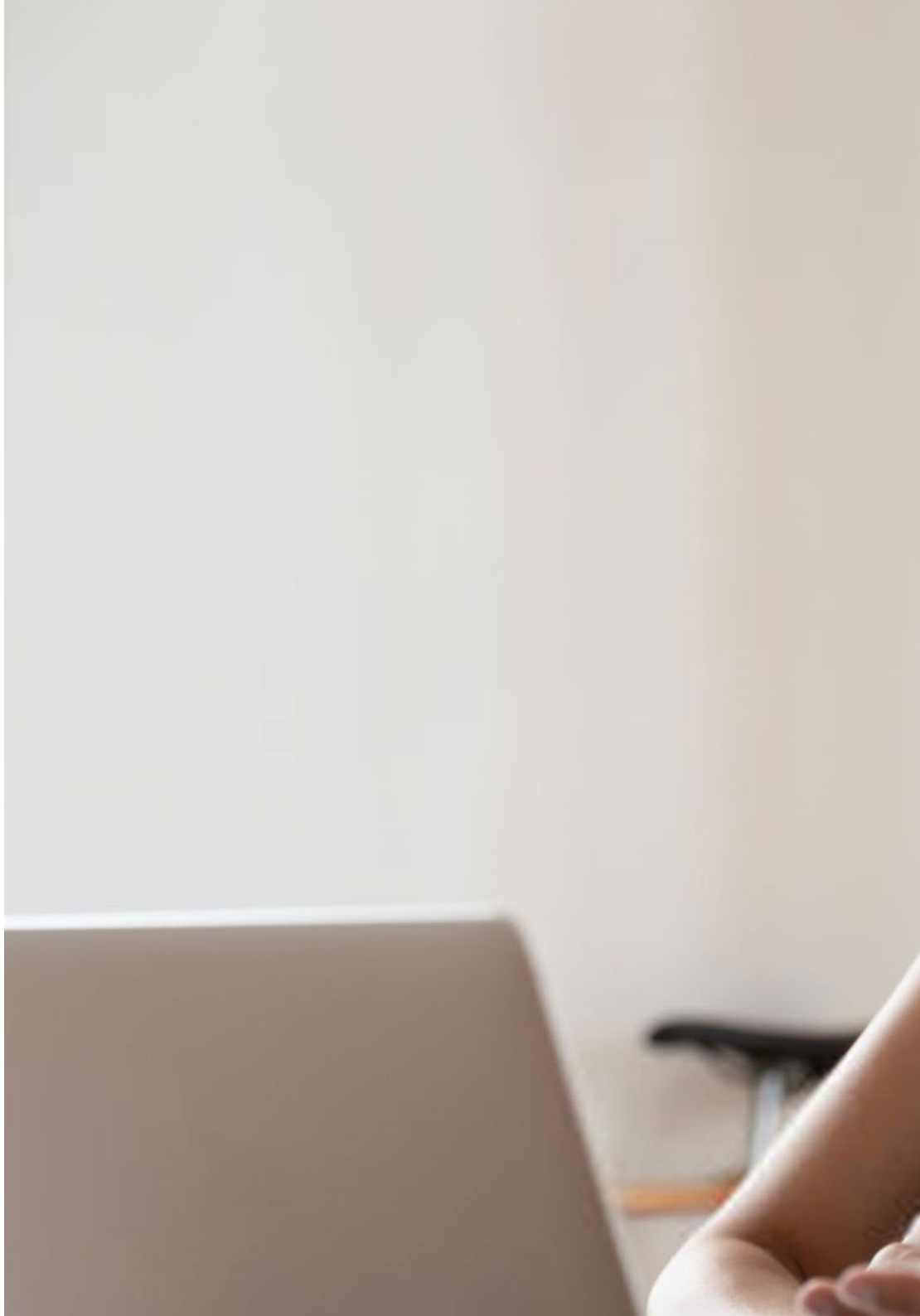
Objectives

The main objective of the program will be to train professionals in the implementation and optimization of advanced technologies that improve the quality and accessibility of automatic interpretation systems. They will develop technical skills that will enable them to effectively integrate speech recognition into different platforms, ensuring a smooth and efficient experience for users. In addition, an understanding of the specific needs of users and how these technologies can be adapted to meet them will be fostered, thus promoting inclusion and effective communication in various contexts.

Take advantage of this unique TECH opportunity! You will tackle current challenges in the field of AI, equipping you with the tools you need to innovate and contribute to the advancement of machine interpreting"

General Objectives

- Learn how to integrate speech recognition technologies into machine interpreting systems, improving accessibility and efficiency
- Develop criteria and methods for assessing the quality of translations and interpretations performed with AI tools
- Integrate AI tools and platforms into the workflow of translators and interpreters, optimizing productivity and consistency
- Train in identifying and resolving ethical and social challenges related to the use of Artificial Intelligence in translation and interpreting
- Explore and implement innovations in the field of AI-assisted translation and interpretation, anticipating emerging trends
- Equip yourself with the necessary skills to lead projects and teams in the implementation of AI solutions in the field of translation and interpreting



Specific Objectives

- Develop skills to integrate speech recognition technologies into machine interpreting systems, improving the accessibility and quality of interpretations
- Learn how to improve the user experience in automatic interpreting systems through the optimization of speech recognition technologies

Thanks to this program, you will enhance the development of your technical skills, promoting an inclusive approach adapted to contemporary communication needs. What are you waiting for to enroll?"

03

Course Management

The instructors are highly qualified professionals with solid academic training and extensive experience in the field of speech recognition technology and automatic interpretation. As such, with an interdisciplinary approach, these instructors will combine knowledge in linguistics and Artificial Intelligence, which will allow them to offer a comprehensive perspective on the subject. In addition, they have been involved in research and development projects, which will provide them with an up-to-date understanding of trends and advances in the field.

The commitment of the teachers is reflected in the innovative pedagogical methods and active interaction with the graduates, ensuring that they understand how AI can transform communication and interpretation"

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
- PhD in Psychology from the University of Castilla La Mancha
- PhD in Economics, Business and Finance from the Camilo José Cela University
- PhD 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, 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

Ms. Martínez Cerrato, Yésica

- Responsible for Technical Training at Securitas Seguridad España
- Education, Business and Marketing Specialist
- Product Manager in Electronic Security at Securitas Seguridad España
- Business Intelligence Analyst at Ricopia Technologies
- Computer Technician and Responsible for OTEC computer classrooms at the University of Alcalá de Henares
- Collaborator in the ASALUMA Association
- Degree in Electronic Communications Engineering at the Polytechnic School, University of Alcalá de Henares.

Ms. Del Rey Sánchez, Cristina

- Talent Management Administrative Officer at Securitas Seguridad España, S.L.
- Extracurricular Activities Center Coordinator
- Support classes and pedagogical interventions with Primary and Secondary Education students
- Postgraduate in Development, Delivery and Tutoring of e-Learning Training Actions.
- Postgraduate in Early Childhood Care
- Degree in Pedagogy from the Complutense University of Madrid

04

Structure and Content

The content will include an introduction to speech recognition technologies, analyzing the fundamental principles and architectures of the systems, as well as their historical evolution. The integration of these technologies in machine interpreting platforms will also be covered, covering aspects such as algorithm optimization and adaptation to different contexts and languages. In addition, user-centered design will be addressed, so that graduates can create interfaces that improve user interaction and satisfaction.

The Postgraduate Certificate in Integration of Speech Recognition Technologies in Machine Interpreting covers a wide range of essential content to train students in this emerging field"

Module 1. Integration of Speech Recognition Technologies in Machine Interpreting

1.1. Introduction to the Integration of Speech Recognition Technologies in Machine Interpreting
- 1.1.1. Definition and Basic Concepts
- 1.1.2. Brief History and Evolution. Kaldi
- 1.1.3. Importance and Benefits in the Field of Interpretation

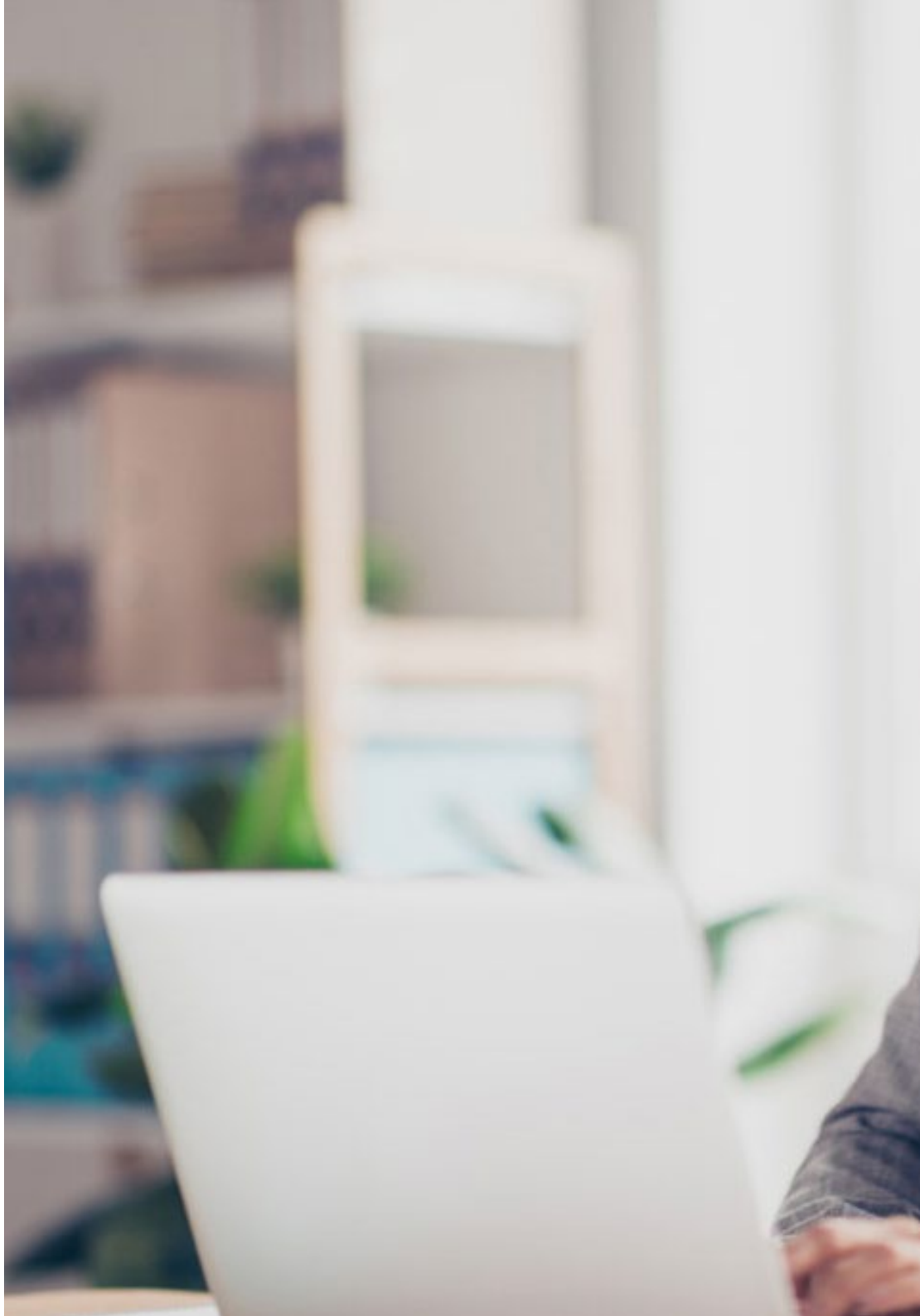
1.2. Principles of Speech Recognition for Machine Interpreting
- 1.2.1. How Speech Recognition Works
- 1.2.2. Technologies and Algorithms Used
- 1.2.3. Types of Speech Recognition Systems

1.3. Development and Improvements in Speech Recognition Technologies
- 1.3.1. Recent Technological Advances. Speech Recognition
- 1.3.2. Improvements in Accuracy and Speed
- 1.3.3. Adaptation to Different Accents and Dialects

1.4. Speech Recognition Platforms and Tools for Machine Interpreting
- 1.4.1. Description of the Main Platforms and Tools Available
- 1.4.2. Comparison of Functionalities and Features
- 1.4.3. Use Cases and Practical Examples. Speechmatics

1.5. Integrating Speech Recognition Technologies into Machine Interpreting Systems
- 1.5.1. Design and Implementation of Machine Interpreting Systems with Speech Recognition
- 1.5.2. Adaptation to Different Interpreting Environments and Situations
- 1.5.3. Technical and Infrastructure Considerations

1.6. Optimization of the User Experience in Machine Interpreting with Speech Recognition
- 1.6.1. Design of Intuitive and Easy to Use User Interfaces
- 1.6.2. Customization and Configuration of Preferences. OTTER.ai
- 1.6.3. Accessibility and Multilingual Support in Machine Interpreting Systems



1.7. Assessment of the Quality in Machine Interpreting with Speech Recognition
- 1.7.1. Interpretation Quality Assessment Metrics
- 1.7.2. Automatic Assessment vs. Human Assessment
- 1.7.3. Strategies to Improve the Quality in Machine Interpreting with Speech Recognition

1.8. Ethical and Social Challenges in the Use of Speech Recognition Technologies in Machine Interpreting
- 1.8.1. Privacy and Security of User Data
- 1.8.2. Biases and Discrimination in Speech Recognition
- 1.8.3. Impact on the Interpreting Profession and on Linguistic and Cultural Diversity

1.9. Specific Applications of Machine Interpreting with Speech Recognition
- 1.9.1. Real-Time Interpreting in Business and Commercial Environments
- 1.9.2. Remote and Telephonic Interpreting with Speech Recognition
- 1.9.3. Interpreting at International Events and Conferences

1.10. Future of the Integration of Speech Recognition Technologies in Machine Interpreting
- 1.10.1. Emerging Trends and Technological Developments. CMU Sphinx
- 1.10.2. Future Prospects and Potential Innovative Applications
- 1.10.3. Implications for Global Communication and Elimination of Language Barriers

The contents will prepare you to face the challenges and opportunities presented by the use of speech recognition technologies in the field of interpreting. With all the TECH quality guarantees!"

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

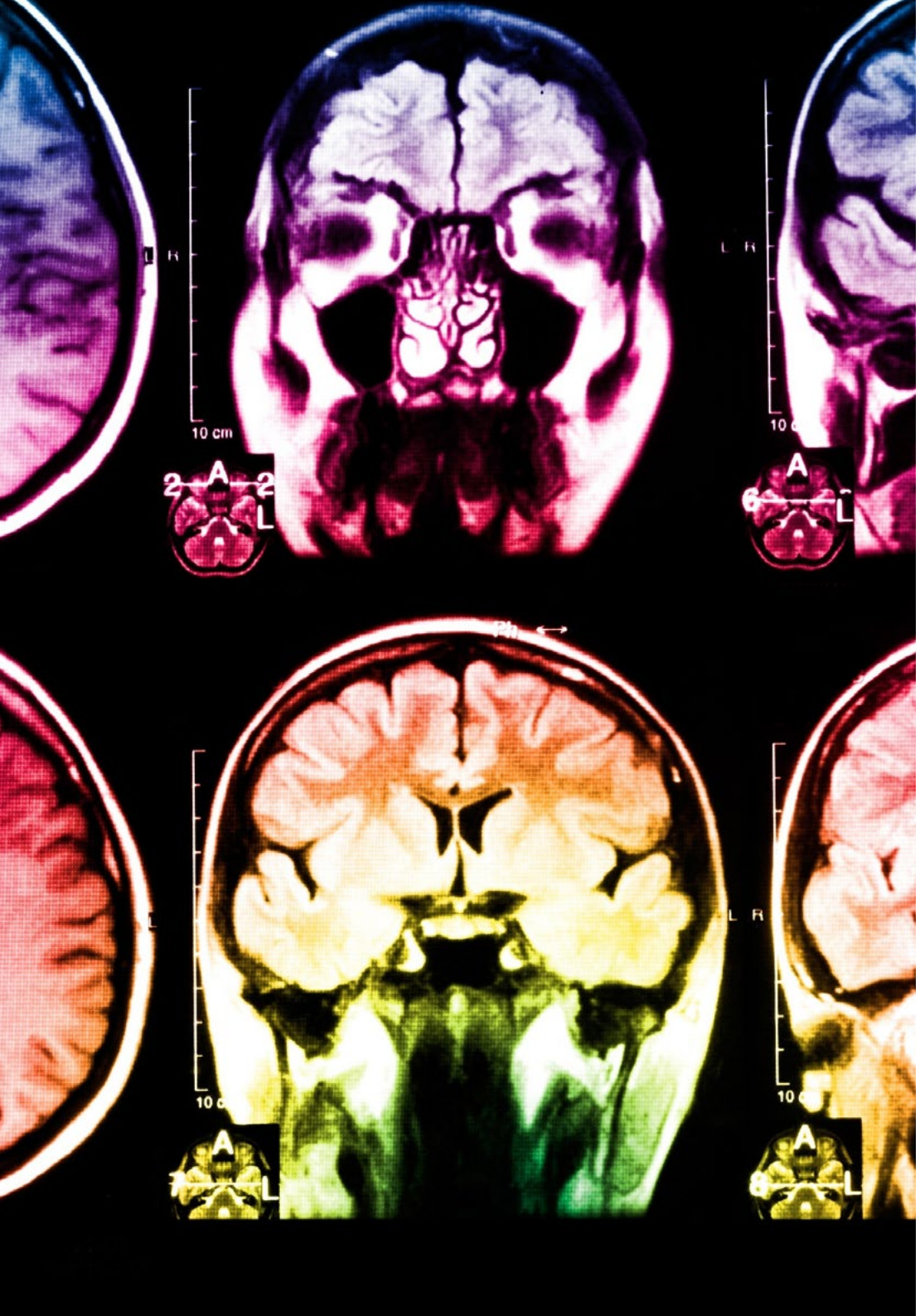
TECH effectively combines the Case Study methodology with a 100% online learning system based on repetition, which combines different teaching elements in each lesson.

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.

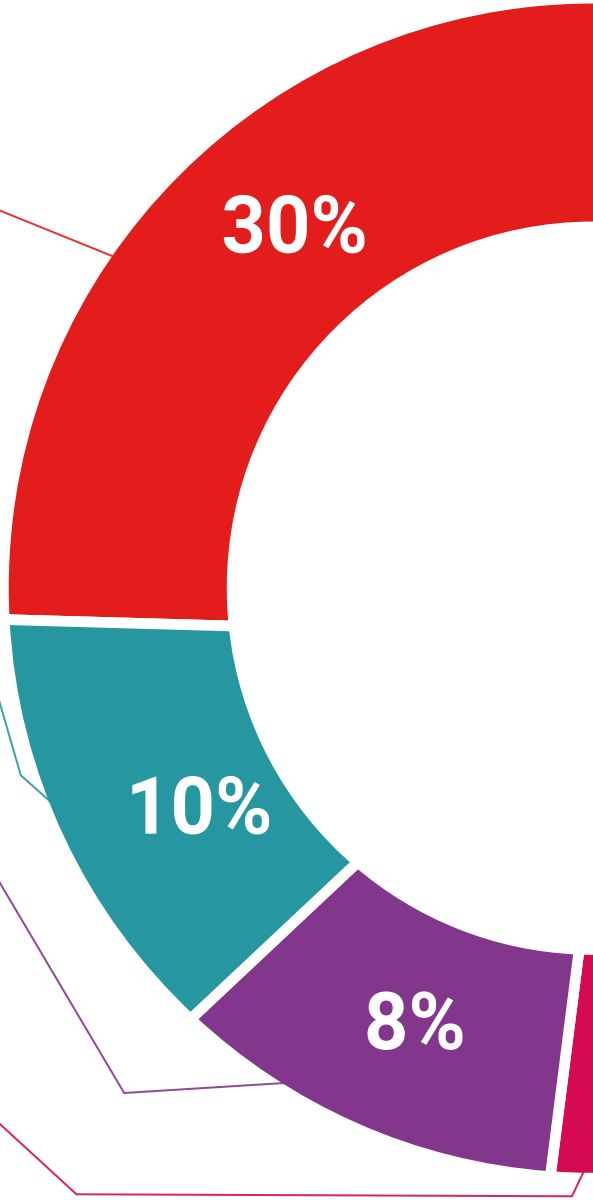
Learning from an Expert strengthens knowledge and memory, and generates confidence in future difficult decisions.

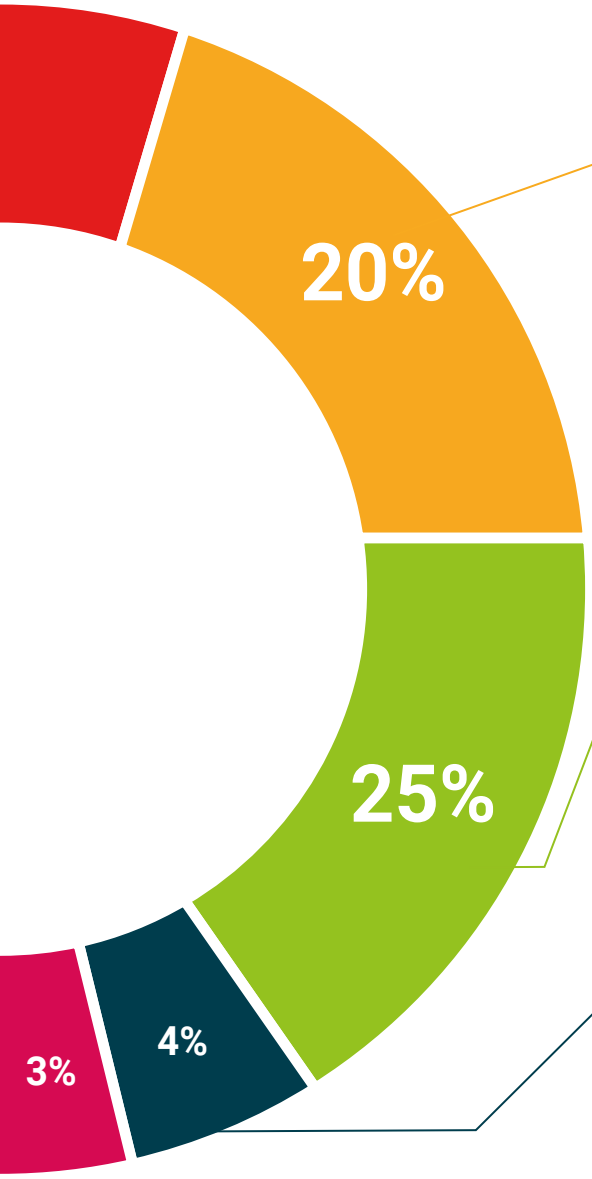
Practising Skills and Abilities

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 Integration of Speech Recognition Technologies in Machine Interpreting guarantees, in addition to the most accurate and up-to-date training, 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 program will allow you to obtain a **Postgraduate Certificate in Integration of Speech Recognition Technologies in Machine Interpreting** endorsed by TECH Global University, the largest digital university in the world.

TECH Global University, is an official European University publicly recognized by the Government of Andorra ***(official bulletin)***. Andorra is part of the European Higher Education Area (EHEA) since 2003. The EHEA is an initiative promoted by the European Union that aims to organize the international training framework and harmonize the higher education systems of the member countries of this space. The project promotes common values, the implementation of collaborative tools and strengthening its quality assurance mechanisms to enhance collaboration and mobility among students, researchers and academics.

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 Integration of Speech Recognition Technologies in Machine Interpreting**

Modality: **online**

Duration: **6 weeks**

Accreditation: **6 ECTS**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Mr./Ms. _____, with identification document _____
has successfully passed and obtained the title of:

Postgraduate Certificate in Integration of Speech Recognition Technologies in Machine Interpreting

This is a private qualification of 180 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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