

Postgraduate Certificate

Natural Language Processing

NLP with RNN



Postgraduate Certificate Natural Language Processing NLP with RNN

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

Website: www.techtute.com/us/information-technology/postgraduate-certificate/natural-language-processing-nlp-rnn

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01

Introduction

The importance of training in Natural Language Processing with Recurrent Neural Networks (NLN) lies in the growing demand for professionals who can apply NLP techniques in a wide range of fields, such as computer science, artificial intelligence, robotics, the technology industry and digital marketing. For this reason, TECH has designed a degree that allows students to maximize their knowledge on aspects such as Attention Mechanisms, Sentiment Analysis, Text Generation Using RNN or Transformers for Vision, among others. All this, thanks to a 100% online modality and with the most dynamic and practical multimedia materials available in the academic market.



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*Improve your Natural Language Processing skills
with RNN, thanks to TECH Global University”*

In the field of artificial intelligence, natural language processing with RNN is used to build chatbots, content recommendation systems and virtual assistants that can understand and respond to user requests in natural language. In addition, training in natural language processing with recurrent neural networks is essential for developing skills in a field of growing demand.

For this reason, TECH has designed a Postgraduate Certificate in Natural Language Processing NLP with RNN in order to provide students with the necessary skills and competencies to be able to work as specialists with the highest possible efficiency and quality. Therefore, throughout this program, topics such as Text Generation Using RNN, Data Cleaning and Transformation or Care Mechanisms are discussed in depth.

All this, through a convenient 100% online modality that allows students to organize their schedules and studies, combining them with their other day-to-day work. In addition, this degree has the most complete theoretical and practical materials on the market, which facilitates the student's study process and allows them to achieve their objectives in an agile and precise manner.

This **Postgraduate Certificate in Natural Language Processing NLP with RNN** 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 Natural Language Processing NLP with RNN
- ◆ The graphic, schematic and eminently practical contents of the book provide sporting and practical information on those 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
- ◆ The availability of access to content from any fixed or portable device with an Internet connection



Become an expert in the Application of Mechanisms of Care in newborns in only 6 weeks and with total freedom of organization"

“

Access all Deep Learning content from your tablet, mobile or computer at any time of the day”

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

Its 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 an immersive education programmed to learn in real situations.

The design of this program focuses on Problem-Based Learning, by means of which the professional must try to solve the different professional practice situations that are presented throughout the academic course. For this purpose, the student will be assisted by an innovative interactive video system created by renowned experts.

Enhance your professional profile in one of the most promising areas of the IT field, thanks to TECH and the most innovative materials.

Delve into aspects such as Image Data Preprocessing from the comfort of your home at any time of the day.



02

Objectives

The final objective of this Postgraduate Certificate in Natural Language Processing NLP with RNN is that the student acquires an accurate update of his knowledge in this area. New skills that allow students to perform their work with the highest possible quality and efficiency. All this, thanks to TECH and a 100% online modality that gives total freedom of organization and schedules to the student.



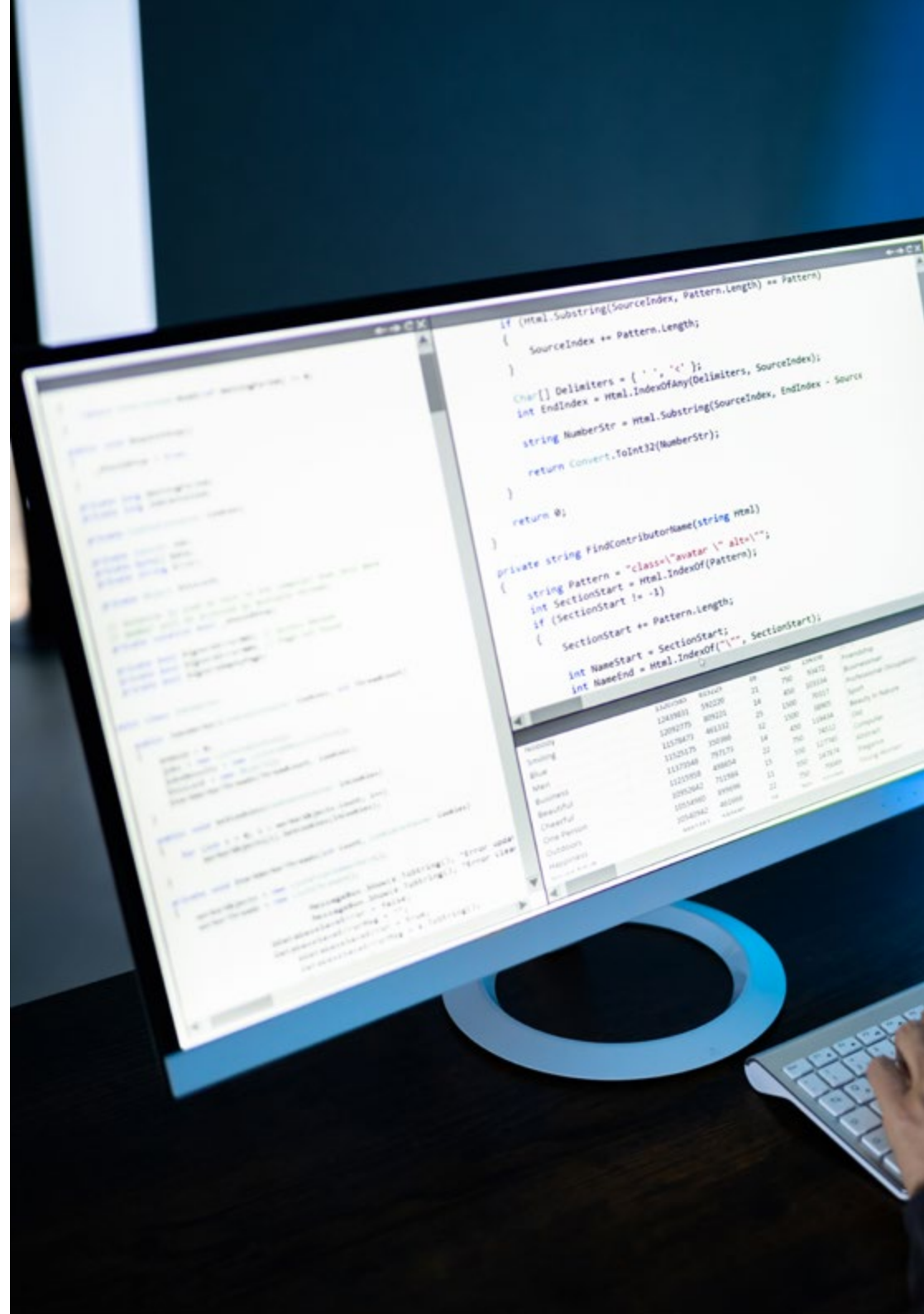
“

Delve into all the essentials of Natural Language Processing with RNN, from the comfort of your home or work office”



General Objectives

- ◆ Support the key concepts of mathematical functions and their derivatives
- ◆ Apply these principles to deep learning algorithms for machine learning
- ◆ Examine the key concepts of Supervised Learning and how they apply to neural network models
- ◆ Analyze the training, evaluation and analysis of neural network models
- ◆ Provide a rationale for the key concepts and main applications of deep learning
- ◆ Implement and optimize neural networks with Keras
- ◆ Develop expertise in deep neural network training
- ◆ Analyze the optimization and regularization mechanisms required for deep network training





Specific objectives

- ◆ Generate text using recurrent neural networks
- ◆ Train an encoder-decoder network to perform neural machine translation
- ◆ Develop a practical application of natural language processing with RNN and attention

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*Exceed your highest expectations,
thanks to a unique program with the
most complete theoretical and practical
materials on the academic market"*

03

Course Management

In order to provide a degree of the highest quality, TECH has selected professionals specialized in Deep Learning as part of this teaching staff, which has been responsible for the design of the most complete and advanced content. In this way, you will learn from the best the keys to your professional development in a field that adapts to new technologies and the latest advances in the market.



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The most experienced faculty will provide you with the latest developments in Transformers Bookstore Comparison, preparing you to meet today's challenges in this area"

Management



Mr. Gil Contreras, Armando

- ◆ Lead Big Data Scientist-Big Data at Jhonson Controls
- ◆ Data Scientist-Big Data at Opensistemas
- ◆ Creativity and Technology Fund Auditor and PricewaterhouseCoopers
- ◆ Lecturer at EAE Business School
- ◆ Degree in Economics from the Santo Domingo Technology Institute INTEC
- ◆ Master in Data Science at the Technology and Arts University Center
- ◆ Master MBA in International Relations and Business at the Center for Financial Studies CEF
- ◆ Postgraduate in Corporate Finance at the Santo Domingo Technology Institute

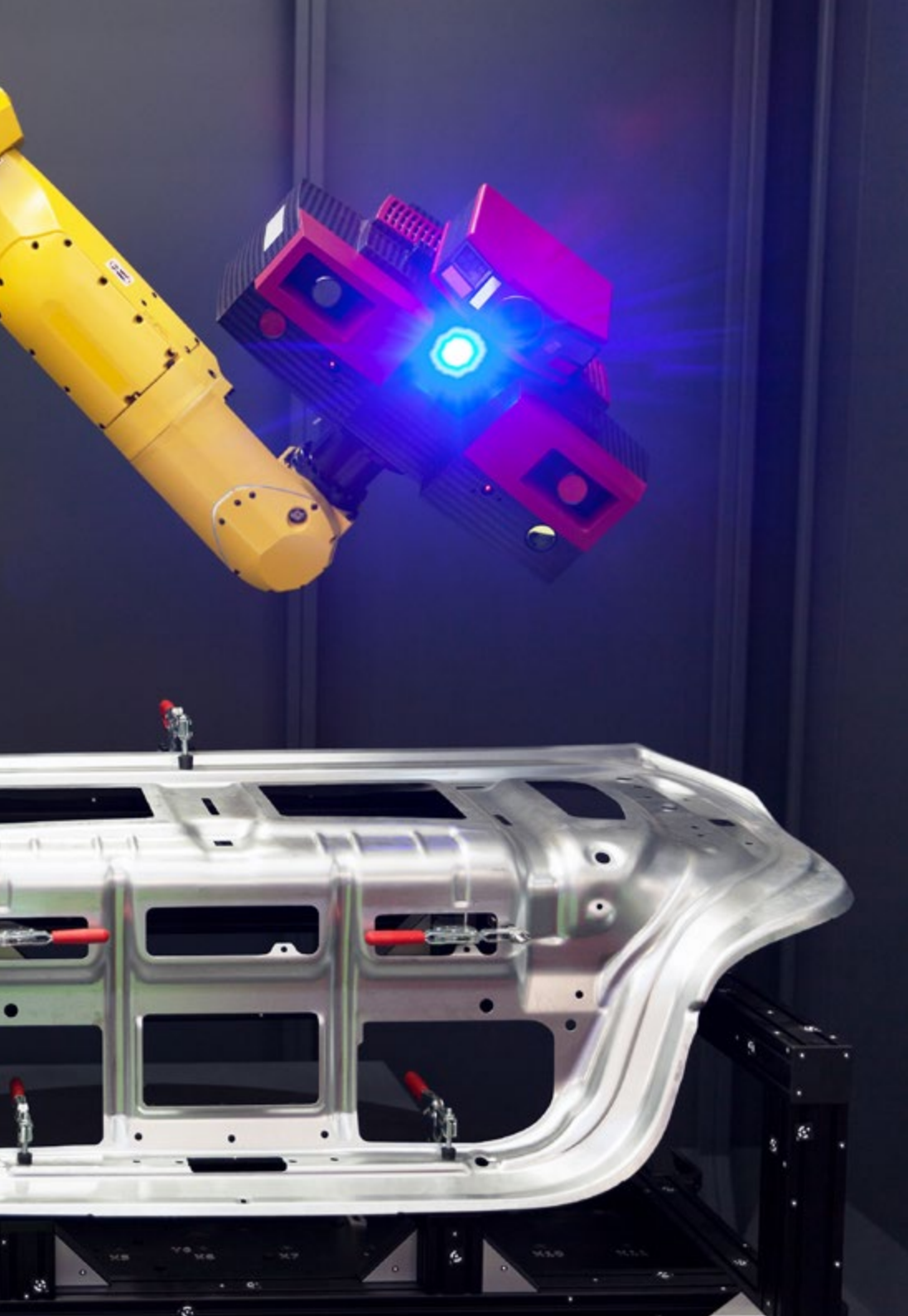
Professors

Mr. Delgado Panadero, Angel

- ◆ ML Engenieer at Paradigma Digital
- ◆ Computer Vision Engineer at NTT Disruption
- ◆ Data Scientist at Singular People
- ◆ Data Analys at Parclick
- ◆ Tutor in the Master in Big Data and Analytics at EAE Business School
- ◆ Degree in Physics from the Salamanca University

Mr. Matos, Dionis

- ◆ Data Engineer at Wide Agency Sodexo
- ◆ Data Consultant at Tokiota Site
- ◆ Data Engineer at Devoteam Testa Home
- ◆ Business Intelligence Developer at Ibermatica Daimler
- ◆ Master Big Data and Analytics /Project Management(Minor) at EAE Business School



Mr. Villar Valor, Javier

- ◆ Director and founding partner Impulsa2
- ◆ Chief Operating Officer of Summa Insurance Brokers
- ◆ Responsible for identifying opportunities for improvement at Liberty Insurance
- ◆ Director of Transformation and Professional Excellence at Johnson Controls Iberia
- ◆ Responsible for the organization of Groupama Insurance Company
- ◆ Lean Six Sigma methodology manager at Honeywell
- ◆ Quality and Purchasing Manager at SP & PO
- ◆ Lecturer at the European Business School

04

Structure and Content

professionals that make up TECH's team of experts in Deep Learning. These specialists have used their extensive experience and the most up-to-date knowledge to create practical and completely innovative content. All of this, based on the most efficient and precise pedagogical methodology, TECH Relearning.



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*The most complete and up-to-date view
of Natural Language Processing with
RNN is found in this unique curriculum”*

Module 1. Natural Language Processing (NLP) with Natural Recurrent Networks (NRNs) and Attention

- 1.1. Text Generation Using RNN
 - 1.1.1 RNN Training for Text Generation
 - 1.1.2 Natural Language Generation with RNN
 - 1.1.3 RNN Text Generation Applications
- 1.2. Creation of the Training Dataset
 - 1.2.1 Data Preparation for RNN Training
 - 1.2.2 Storage of the Training Dataset
 - 1.2.3 Data Cleaning and Transformation
- 1.3. Sentiment Analysis
 - 1.3.1 Classification of RNN Opinions
 - 1.3.2 Detection of issues in comments
 - 1.3.3 Sentiment Analysis with Deep Learning Algorithms
- 1.4. Encoder-Decoder Network for Neural Machine Translation
 - 1.4.1 RNN Training for Machine Translation
 - 1.4.2 Use of an Encoder-Decoder Network for Machine Translation
 - 1.4.3 Improving Machine Translation Accuracy with RNNs
- 1.5. Attention Mechanisms
 - 1.5.1 Application of Care Mechanisms in RNN
 - 1.5.2 Use of Attention Mechanisms to Improve Model Accuracy
 - 1.5.3 Advantages of Attention Mechanisms in Neural Networks
- 1.6. Transformers Models
 - 1.6.1 Use of Transformer Models for Natural Language Processing
 - 1.6.2 Application of Transformers for Vision Models
 - 1.6.3 Advantages of Transformer Models
- 1.7. Transformers for Vision
 - 1.7.1 Use of Transformers for Vision Models
 - 1.7.2 Preprocessing of Image Data
 - 1.7.3 Training a Transformer Model for Vision





- 1.8 Hugging Face Transformers Bookstore
 - 1.8.1 Using the Hugging Face Transformers Bookstore
 - 1.8.2 Application of the Hugging Face Transformer Bookstore
 - 1.8.3 Advantages of the Hugging Face Transformers Bookstore
- 1.9 Other Transformers Bookstores Comparison
 - 1.9.1 Comparison Between the Different Transformers Bookstores
 - 1.9.2 Use of the Other Transformers Libraries
 - 1.9.3 Advantages of the Other Transformers Bookstores
- 1.10 Development of a NLP Application with RNN and Care Practical Application
 - 1.10.1 Development of a Natural Language Processing Application with RNN and Attention
 - 1.10.2 Use of RNN, Care Mechanisms and Transformers Models in Application
 - 1.10.3 Evaluation of Practical Application

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Thanks to the most efficient teaching methodology, you will be able to acquire new knowledge in a precise way and in only 180 hours"

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 Natural Language Processing NLP with RNN guarantees students, in addition to the most rigorous and up-to-date education, access to a Postgraduate Certificate issued by TECH Global University.





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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 your **Postgraduate Certificate in Natural Language Processing NLP with RNN** endorsed by **TECH Global University**, the world's largest online university.

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** title 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 Natural Language Processing NLP with RNN**

Modality: **online**

Duration: **6 weeks**

Accreditation: **6 ECTS**



*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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