Postgraduate Certificate
Model Customization with TensorFlow

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Postgraduate Certificate
Model Customization with TensorFlow

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

Website: **www.techtitute.com/pk/engineering/postgraduate-certificate/model-customization-tensorflow**

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01
Introduction

In a constantly evolving environment such as Engineering, Model Customization with TensorFlow has become an essential skill for data processing and solving complex problems in the field of Deep Learning. Therefore, this program has been specifically designed to respond to the current needs of the market, providing students with quality training in Model Customization with TensorFlow and advanced Deep Learning techniques. In addition, its 100% online format allows graduates to adapt their studies to their life style and access the theoretical and practical contents from any place and at any time, without having to attend classes in person or adjust to fixed schedules.

Don't miss the unique opportunity to increase your level of specialization in Model Customization with TensorFlox thanks to this Postgraduate Certificate in just 6 weeks"

Modern engineering is constantly evolving, and Deep Learning has proven to be an essential tool for data processing and complex problem solving. In this context, this program is designed to meet the increasing demand for highly qualified professionals in this area. Therefore, the program has been specifically designed to respond to the current needs of the market, offering students quality teaching in model customization with TensorFlow, one of the most widely used Deep Learning platforms today.

This way, topics such as the understanding of deep learning algorithms, model optimization and algorithm customization with TensorFlow are addressed throughout the program. In addition, knowledge of TensorFlow tools is covered in depth, as well as the ability to interpret, visualize and present results of customized models. At the end of the course, students will have a solid, practical understanding of how to customize and adapt Deep Learning models to meet specific business or project needs.

In order to facilitate student learning, TECH has developed a comprehensive program based on the unique Relearning methodology. This methodology focuses on the progressive and natural repetition of the fundamental concepts so that the graduate integrates this knowledge effectively. In this way, the student will acquire the necessary competencies by adjusting the pace of study to their own life.

In order to simplify the professional's learning process, TECH has designed its program in a completely online format. This way, the student can focus exclusively on their studies without the need to travel or adjust to a fixed schedule. In addition, they can access the theoretical and practical content from anywhere and at any time, all they need is a device with Internet connection.

This **Postgraduate Certificate in Model Customization with TensorFlow** 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 Deep Learning

♦ 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 are in front of a unique program that will help you boost your professional success so that you can become part of the biggest technology companies of the moment"

No attendance, fixed schedules or uncomfortable commuting. All advantages for you with this TECH program"

Master the use of optimization techniques for training and customization of models and algorithms with this unique academic program.

A program that will allow you to delve into graphic optimization with TensorFlow operations and perform efficient training parameter management.

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.

02
Objectives

The objective of the Postgraduate Certificate is to provide the graduate with access to the most innovative theoretical, practical and additional content in Model Customization with TensorFlow and its multiple possibilities, in just 6 weeks. Thanks to the rigorous syllabus, any professional will be able to reach their highest goals through this program, which adapts to their needs and is presented in a 100% online format, convenient and accessible.

" You will gain the knowledge you need to use TensorFlow tools in data manipulation and boost your professional career"

General Objectives

- Lay the foundation for the key concepts of mathematical functions and their derivatives
- Apply these principles to deep learning algorithms to learn automatically
- 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
- Lay the foundation for the key concepts and main applications of deep learning
- Implement and optimizes neural networks with Keras
- Develop expertise in the training of deep neural networks
- Analyze the optimization and regularization mechanisms necessary for deep network training

Specific Objectives

◆ Determine how to use the TensorFlow API to define custom functions and graphs

◆ Lay the foundations for using the tf.data API to load and pre-process data efficiently

◆ Discuss the TensorFlow Datasets project and how it can be used to facilitate access to preprocessed datasets

Become an expert in the construction of preprocessing pipelines with Keras thanks to this 100% online training"

03

Course Management

The teaching team of the TECH program has been carefully selected to offer students an education of excellence. They are highly recognized and experienced professionals in the field of Engineering, which allows them to provide a complete and up-to-date vision of the sector. In this way, students will be able to acquire the necessary tools to develop their work activity in a constantly evolving environment. Therefore, they will be able to become experts in Model Customization with TensorFlow.

Experts with extensive professional experience and a high level of mastery of TensorFlow have designed this program to help you achieve your most ambitious goals"
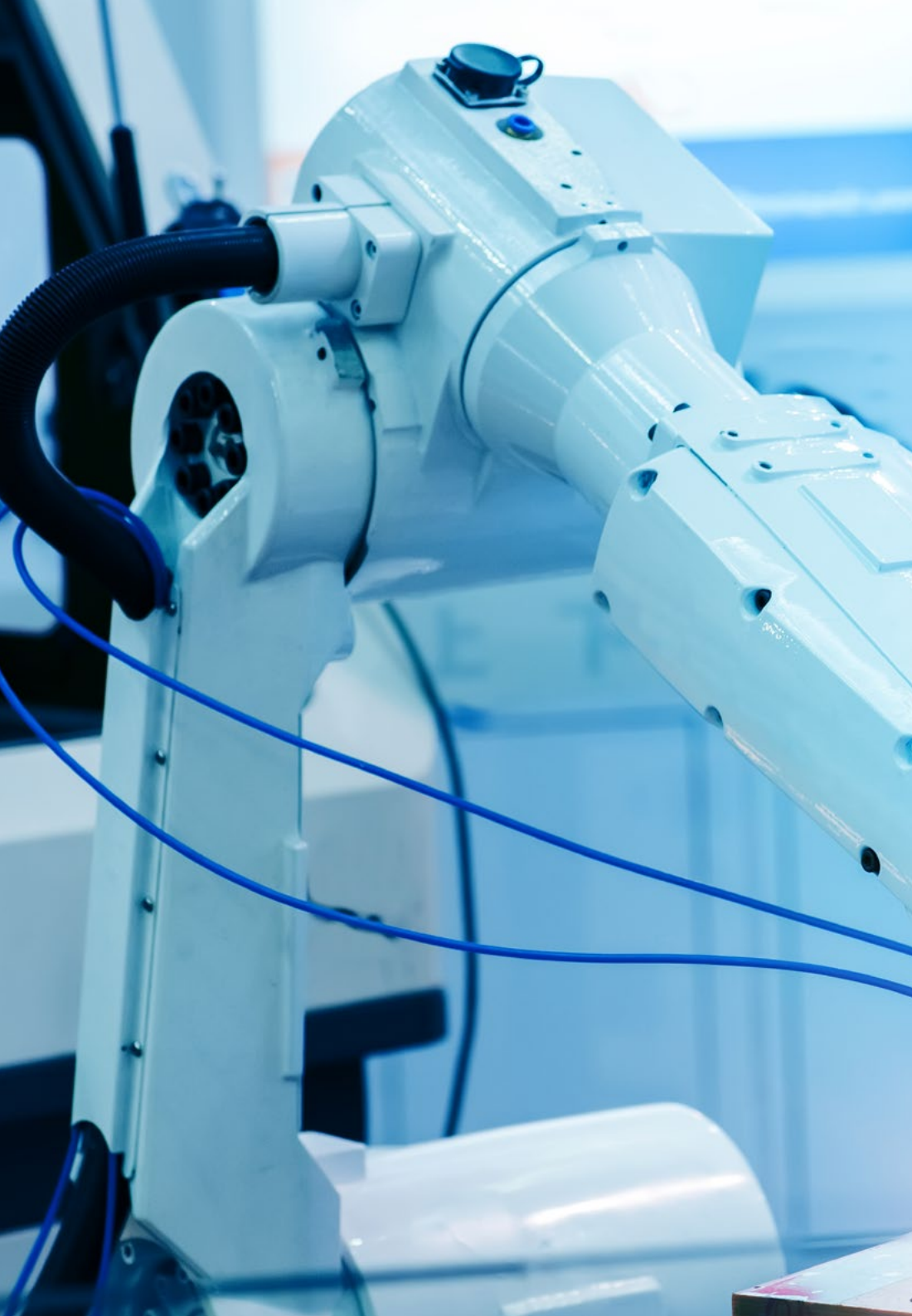
Management

Mr. Gil Contreras, Armando

- Lead Big Data Scientist-Big Data at Jhonson Controls
- Data Scientist-Big Data at Opensistemas
- Fund Auditor at Creativity and Technology and PricewaterhouseCoopers
- Professor at EAE Business School
- Degree in Economics from the Instituto Tecnológico de Santo Domingo INTEC
- Master's Degree in Data Science at Centro Universitario de Tecnología y Arte
- Master MBA in International Relations and Business at Centro de Estudios Financieros CEF
- Postgraduate Degree in Corporate Finance at the Instituto Tecnológico de Santo Domingo

Professors

Mr. Delgado Panadero, Ángel

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

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 Founder Partner Impulsa2
- Chief Operating Officer of Summa Insurance Brokers
- Responsible for identifying improvement opportunities at Liberty Seguros
- Director of Transformation and Professional Excellence at Johnson Controls Iberia
- Responsible for the organization of the company Groupama Seguros
- Responsible for Lean Six Sigma methodology at Honeywell
- Director of Quality and Purchasing at SP & PO
- Professor at the European Business School

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Structure and Content

In all its programs, TECH applies the Relearning methodology, which allows students to integrate the most important concepts through repetition in different formats throughout the program. Thanks to this, the engineer will avoid the need to spend long hours studying and memorizing, allowing learning to be more progressive and natural. Students who choose to study any of these programs will have access to an advanced and complete syllabus, which includes innovative multimedia content. This way, TECH guarantees graduates a unique academic experience, adapted to the demands and needs of today's labor market.
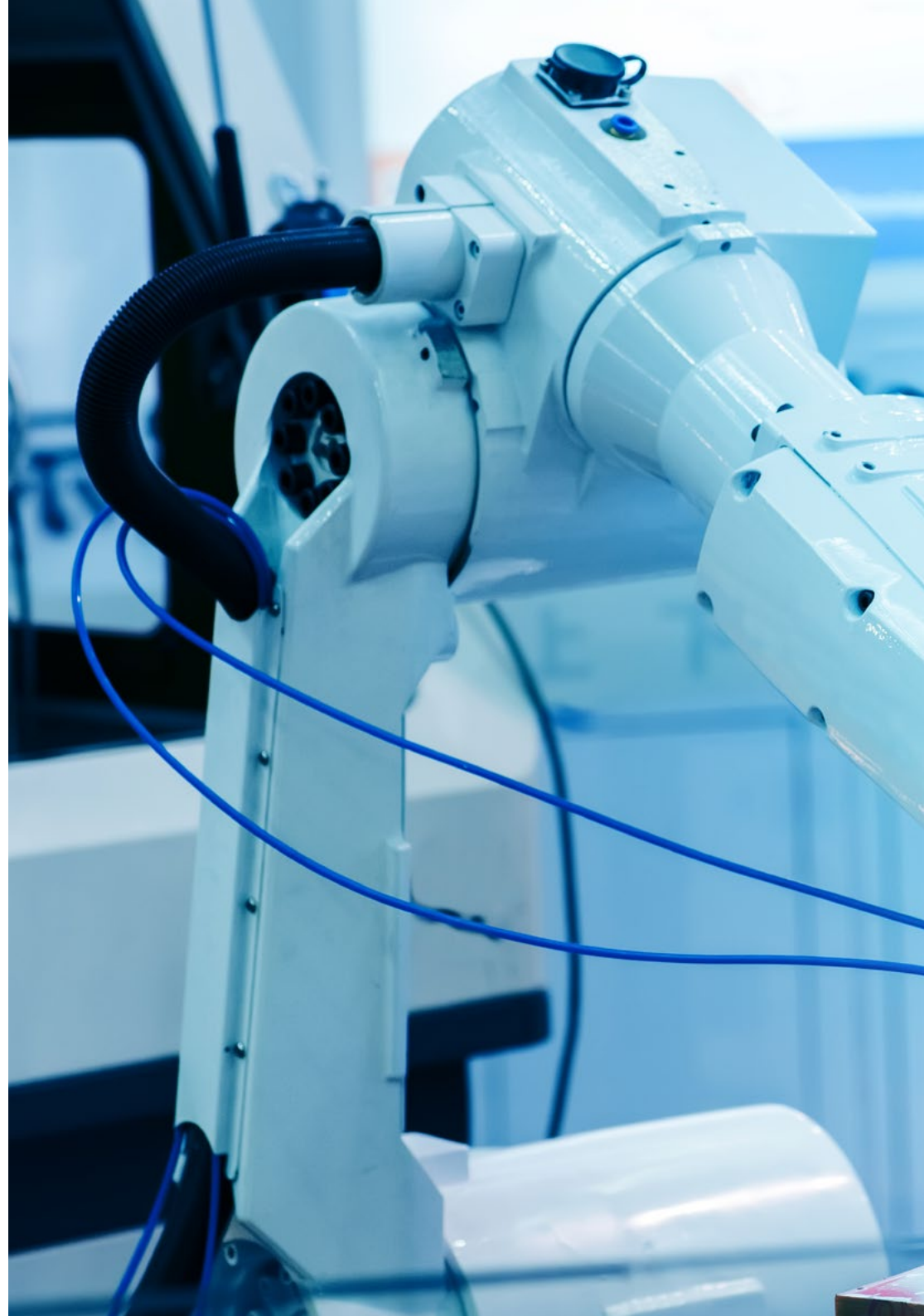
Access from your preferred device to the most complete and up-to-date syllabus on Model Customization with Tensorflow in the academic panorama"

Module 1. Model Customization and Training with TensorFlow

1.1.   TensorFlow

    1.1.1.   Use of the TensorFlow Library

    1.1.2.   Model Training with TensorFlow

    1.1.3.   Operations with Graphics in TensorFlow

1.2.   TensorFlow and NumPy

    1.2.1.   NumPy Computational Environment for TensorFlow

    1.2.2.   Using NumPy Arrays with TensorFlow

    1.2.3.   NumPy Operations for TensorFlow Graphics

1.3.   Model Customization and Training Algorithms

    1.3.1.   Building Custom Models with TensorFlow

    1.3.2.   Management of Training Parameters

    1.3.3.   Use of Optimization Techniques for Training

1.4.   TensorFlow Functions and Graphics

    1.4.1.   Functions with TensorFlow

    1.4.2.   Use of Graphics for Model Training

    1.4.3.   Graphics Optimization with TensorFlow Operations

1.5.   Data Loading and Pre-processing with TensorFlow

    1.5.1.   Loading Data Sets with TensorFlow

    1.5.2.   Data Pre-processing with TensorFlow

    1.5.3.   Using TensorFlow Tools for Data Manipulation

1.6.   The tf.data API

    1.6.1.   Using the tf.data API for Data Processing

    1.6.2.   Construction of Data Flows with tf.data

    1.6.3.   Using the tf.data API for Models Training

1.7.   The TFRecord Format

    1.7.1.   Using the TFRecord API for Data Serialization

    1.7.2.   Loading TFRecord Files with TensorFlow

    1.7.3.   Using TFRecord Files for Models Training

An educational program designed by specialists to give you an in-depth understanding of Model Customization with TensorFlow"

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 is the most widely used learning system in the best faculties in the world. 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 program, the studies 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 8 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.

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. 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.

30%

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.

10%

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.

8%

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.

20%

25%

4%

3%
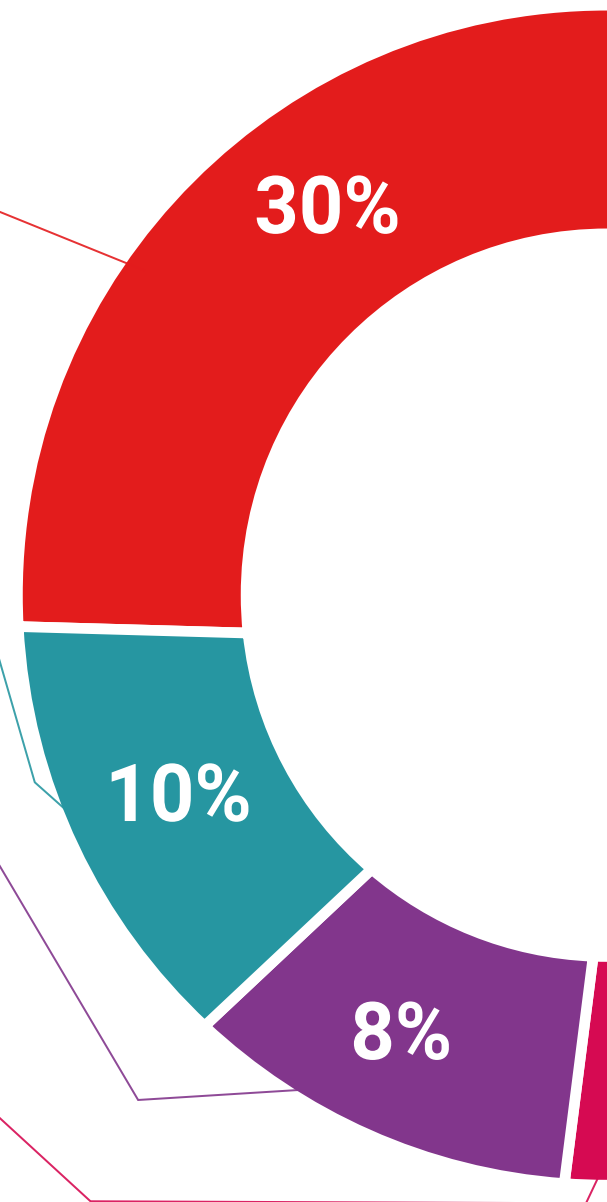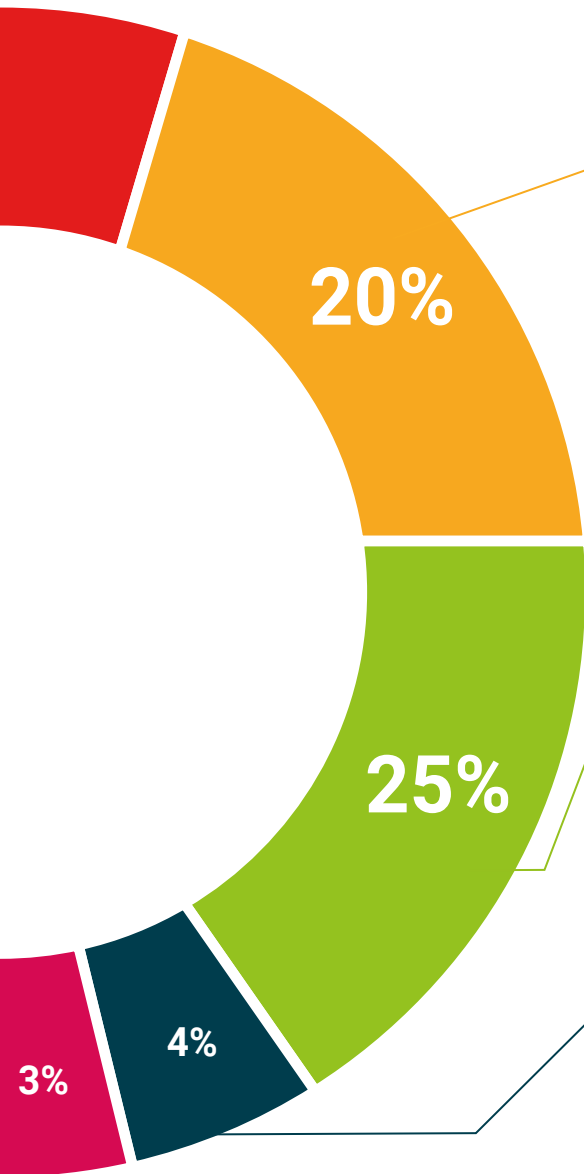
Case Studies

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 Model Customization with TensorFlow guarantees students, in addition to the most rigorous and up-to-date education, access to a Postgraduate Certificate issued by TECH Technological University.

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

This **Postgraduate Certificate in Model Customization with TensorFlow** contains the most complete and up-to-date scientific on the market.

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

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

Title: **Postgraduate Certificate in Model Customization with TensorFlow**

Official Nº of Hours: **150 h.**

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Awards the following
CERTIFICATE
to
Mr./Ms. _____, with identification number _____.
For having passed and accredited the following program

POSTGRADUATE CERTIFICATE
in

Model Customization with TensorFlow

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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