

Internship Program

Artificial Intelligence



Internship Program
Artificial Intelligence

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01 Introduction

Artificial Intelligence (AI) is redefining the boundaries of technological innovation in multiple industries. It not only optimizes operational efficiency and decision making through accurate predictive analytics, but also drives the development of autonomous vehicles, advanced virtual assistants and personalized recommendation systems. For this reason, TECH has implemented the present university degree, in which, for 3 weeks, graduates will join a reference company in the field of Artificial Intelligence, to get up to speed with the most recent advances in this field.

“

This Internship Program will provide you with the opportunity to acquire practical skills and hands-on experience in the development and application of Artificial Intelligence algorithms"





According to recent studies, the global Artificial Intelligence (AI) market is expected to reach \$733.7 billion, with applications ranging from process automation, to supply chain optimization and more accurate medical diagnostics. Engineers around the world are adopting advanced AI techniques, such as deep neural networks and supervised and unsupervised machine learning, to develop innovative solutions that improve operational efficiency and enable real-time data-informed decision making.

Given this framework, TECH has developed a revolutionary Internship Program in Artificial Intelligence, consisting of a 120-hour on-site stay. Therefore, during 3 weeks, professionals will join a team composed of real experts in this field. Together with them, they will be actively involved in tasks such as data analysis, training of deep neural networks or the design of predictive models, among others. Thanks to this, they will acquire multiple competencies to optimize their usual procedures and provide top-quality services.

It should be noted that, during this itinerary, engineers will have the support of an assistant tutor, who will be in charge of guiding them and solving any doubts they may have. In this way, they will enjoy a successful learning experience that will help them to expand their professional prospects. Along the same lines, students will be highly qualified to make the leap to the most prestigious technological institutions, offering the most efficient solutions.

02

Why Study an Internship Program?

This program will enable graduates to understand the theoretical foundations, as well as master real AI tools and platforms, such as TensorFlow and PyTorch. This will not only strengthen their technical skills in crucial areas such as machine learning and natural language processing, but will also prepare engineers to tackle real challenges in sectors such as healthcare, finance, and logistics. In order to help them with this task, TECH has designed a unique and disruptive academic product in today's pedagogical landscape, which will allow specialists to step, for 3 weeks, into a real working environment.



The Internship Program will increase your employability and career opportunities, preparing you to lead innovation and digital transformation in your respective fields"

1. Updating from the latest technology available

New technologies are having a great impact on the field of Artificial Intelligence, providing engineers with advanced tools to optimize their work in a significant way, such as generative AI, large language models (LLMs) and deep neural networks. These technologies make it possible to optimize industrial processes, improve real-time decision making and develop intelligent systems capable of continuous learning and adaptation.

2. Gaining in-depth knowledge from the experience of top specialists

During the Internship Program, a team of Artificial Intelligence professionals will accompany students to help them get the most out of this academic experience. At the same time, they will transmit the most innovative techniques for analyzing large volumes of data.

3. Entering first-class professional environments

TECH's main premise is to make top-quality university programs available to everyone. For this reason, it carefully selects all the centers available for students to carry out their practical training. Thanks to this, engineers are guaranteed access to leading institutions in the field of Artificial Intelligence. In this way, you will be able to experience the day-to-day work of a demanding, rigorous and exhaustive work area, always applying the latest techniques in its work methodology.



4. Combining the best theory with state-of-the-art practice

In today's academic market it is common to find university degrees that are limited to providing theoretical content, forgetting that practice is a fundamental aspect for students to apply their knowledge to real work situations. Far from this, TECH offers a 100% practical learning model, which will allow IT professionals to acquire practical experience and face the real challenges they may encounter in their professional career.

5. Expanding the boundaries of knowledge

TECH offers graduates the opportunity to carry out this Internship Program in international organizations. Thanks to this, computer scientists will be able to expand their frontiers and catch up with the best professionals who work in top-level companies. A unique opportunity that only TECH, the largest digital university in the world could offer.



*You will have full practical immersion
at the center of your choice"*

03 Objectives

The objectives of the Internship Program are to provide engineers with a deep and practical understanding of the fundamental principles and advanced applications of Artificial Intelligence. Through hands-on projects and case studies, engineers are expected to acquire concrete skills in the development and deployment of machine learning models, neural networks, and data processing. In addition, the training aims to familiarize engineers with leading tools and technologies in the field, preparing them to address complex technical challenges and apply innovative solutions in their respective areas of specialization.



General Objectives

- ♦ Understand the theoretical foundations of Artificial Intelligence
- ♦ Study the different types of data and understand the data lifecycle
- ♦ Evaluate the crucial role of data in the development and implementation of AI solutions
- ♦ Delve into algorithms and complexity to solve specific problems
- ♦ Explore the theoretical basis of neural networks for Deep Learning development
- ♦ Analyze current strategies of Artificial Intelligence in various fields, identifying opportunities and challenges

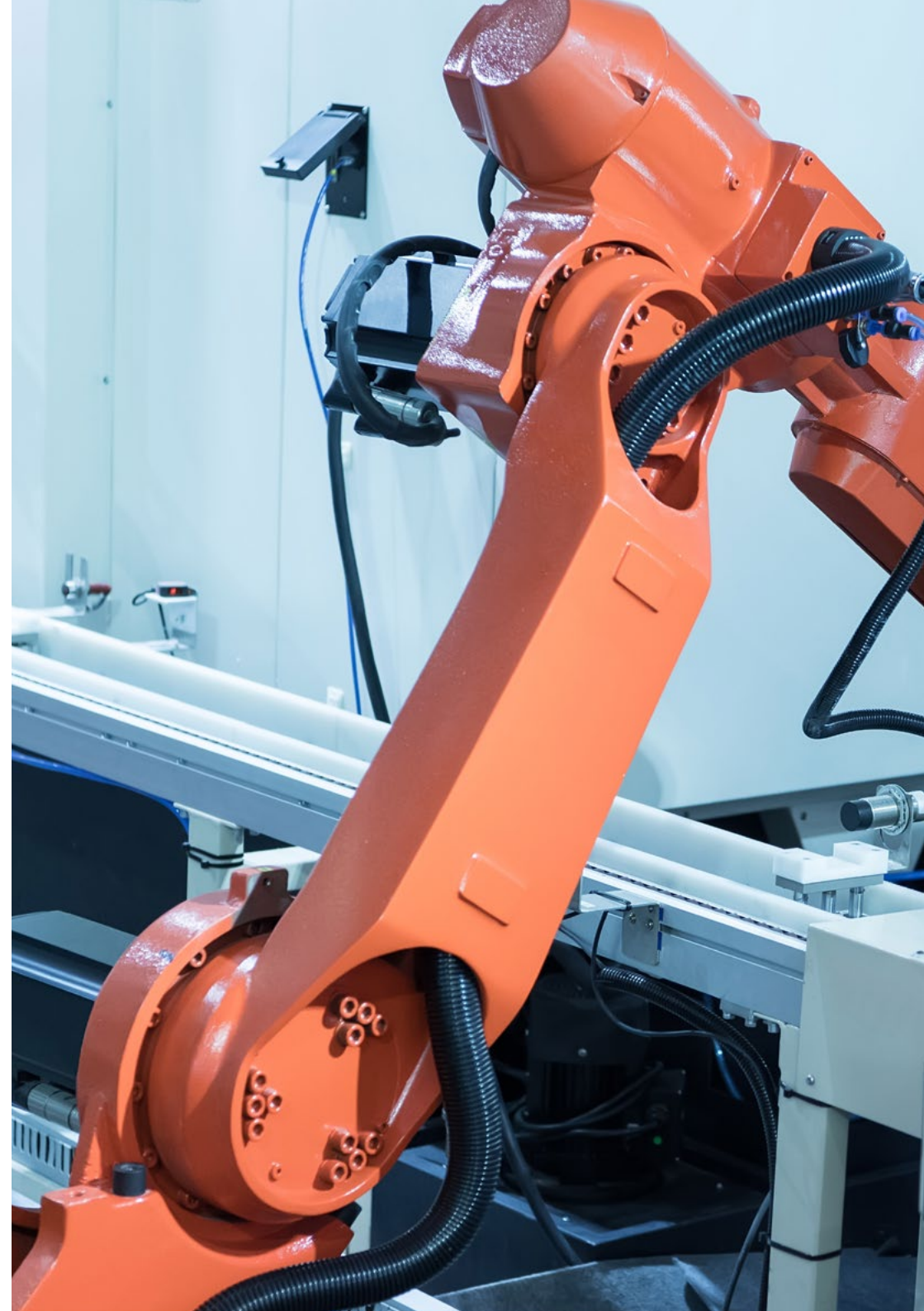




Specific Objectives

- ♦ Understand the functioning of neural networks and their application in learning models in Artificial Intelligence
- ♦ Explore the initial stages of the data life cycle, highlighting the importance of data planning and structure
- ♦ Explore the Datawarehouse concept, with emphasis on the elements that comprise it and its design
- ♦ Master the fundamentals of data science, covering tools, types and sources for information analysis
- ♦ Explore the process of transforming data into information using data mining and visualization techniques
- ♦ Study the structure and characteristics of datasets, understanding their importance in the preparation and use of data for Artificial Intelligence models
- ♦ Analyze supervised and unsupervised models, including methods and classification
- ♦ Use specific tools and best practices in data handling and processing, ensuring efficiency and quality in the implementation of Artificial Intelligence
- ♦ Master the techniques of statistical inference to understand and apply statistical methods in data mining
- ♦ Perform detailed exploratory analysis of data sets to identify relevant patterns, anomalies, and trends
- ♦ Develop skills for data preparation, including data cleaning, integration, and formatting for use in data mining
- ♦ Introduce algorithm design strategies, providing a solid understanding of fundamental approaches to problem solving

- ♦ Analyze graph-based algorithms, exploring their application in the representation and solution of problems involving complex relationships
- ♦ Analyze the concept of the semantic web and its impact on the organization and retrieval of information in digital environments
- ♦ Evaluate and compare different knowledge representations, integrating these to improve the efficiency and accuracy of intelligent systems
- ♦ Study clustering techniques to identify patterns and structures in unlabeled data sets
- ♦ Explore text mining and natural language processing (NLP), understanding how machine learning techniques are applied to analyze and understand text
- ♦ Master the fundamentals of Deep Learning, understanding its essential role in Deep Learning
- ♦ Tune hyperparameters for Fine Tuning of neural networks, optimizing their performance on specific tasks
- ♦ Solve gradient-related problems in deep neural network training
- ♦ Explore and apply Data Augmentation techniques to enrich datasets and improve model generalization
- ♦ Master the fundamentals of TensorFlow and its integration with NumPy for efficient data management and calculations
- ♦ Customize models and training algorithms using the advanced capabilities of TensorFlow
- ♦ Explore the tfdata API to efficiently manage and manipulate datasets





- ♦ Explore object detection and object tracking strategies using Convolutional Neural Networks
- ♦ Developing skills in text generation using Recurrent Neural Networks (RNN)
- ♦ Delve into the implementation and usefulness of neural networks in bio-inspired computing
- ♦ Apply artificial intelligence techniques in industry to improve productivity
- ♦ Analyze the implications of artificial intelligence in the delivery of healthcare services
- ♦ Develop strategies for the implementation of artificial intelligence in financial services



You will strengthen your ability to solve complex problems by applying advanced algorithms and data processing techniques"

04

Educational Plan

The Internship Program of this program in Artificial Intelligence consists of a 3-week internship in a reference entity, from Monday to Friday, with 8 consecutive hours of practical training with an assistant specialist. Thanks to this itinerary, the graduates will acquire advanced skills and will experience a significant leap in quality in their professional careers.

In this training proposal, which is completely practical in nature, the activities are aimed at developing and perfecting the skills necessary for the provision of Artificial Intelligence services and are oriented towards specific training for the exercise of the activity.

This is an excellent opportunity for engineers to learn by working in a leading institution, where they will join a team composed of experts in the field of Artificial Intelligence. These professionals will transmit all the knowledge they need to excel in a field highly demanded by companies.

The practical teaching will be carried out with the active participation of the student performing the activities and procedures of each area of competence (learning to learn and learning to do), with the accompaniment and guidance of teachers and other training partners that facilitate teamwork and multidisciplinary integration as transversal competencies for the praxis of Computer Science (learning to be and learning to relate).





The procedures described below will be the basis of the practical part of the program, and their implementation will be subject to the center's own availability and workload, the proposed activities being the following:

Module	Practical Activity
Data Management Process	Design and implement systems for data entry (such as web forms, mobile applications and automated capture systems)
	Manage cloud storage solutions for scalability and accessibility of data
	Execute data cleansing techniques to correct errors and assure data quality
	Create data analytics algorithms, including Machine Learning
Data Mining Techniques	Apply dimensionality reduction techniques in order to eliminate redundancies and reduce data size without losing relevant information
	Use visualization tools in order to explore data and detect patterns
	Generate new variables from existing ones to improve the performance of predictive models
	Use evaluation metrics to measure the performance of the models
Development of Bioinspired Algorithms	Build evolutionary algorithms that mimic the processes of natural selection and evolution to solve complex problems
	Model and simulate biological systems to understand their principles and apply this knowledge to computational solutions
	Apply bio-inspired algorithms to optimization problems in diverse areas such as logistics, network design, and resource planning
	Develop software frameworks that facilitate implementation and experimentation with bio-inspired algorithms
Deep Computer Vision	Perform preprocessing tasks such as normalization, sizing and color correction to prepare the input data
	Train Deep Neural Network models using Supervised Learning techniques
	Perform error analysis to identify and correct model prediction failures
	Monitor the performance of models in production and perform maintenance to ensure that they continue to perform well over time

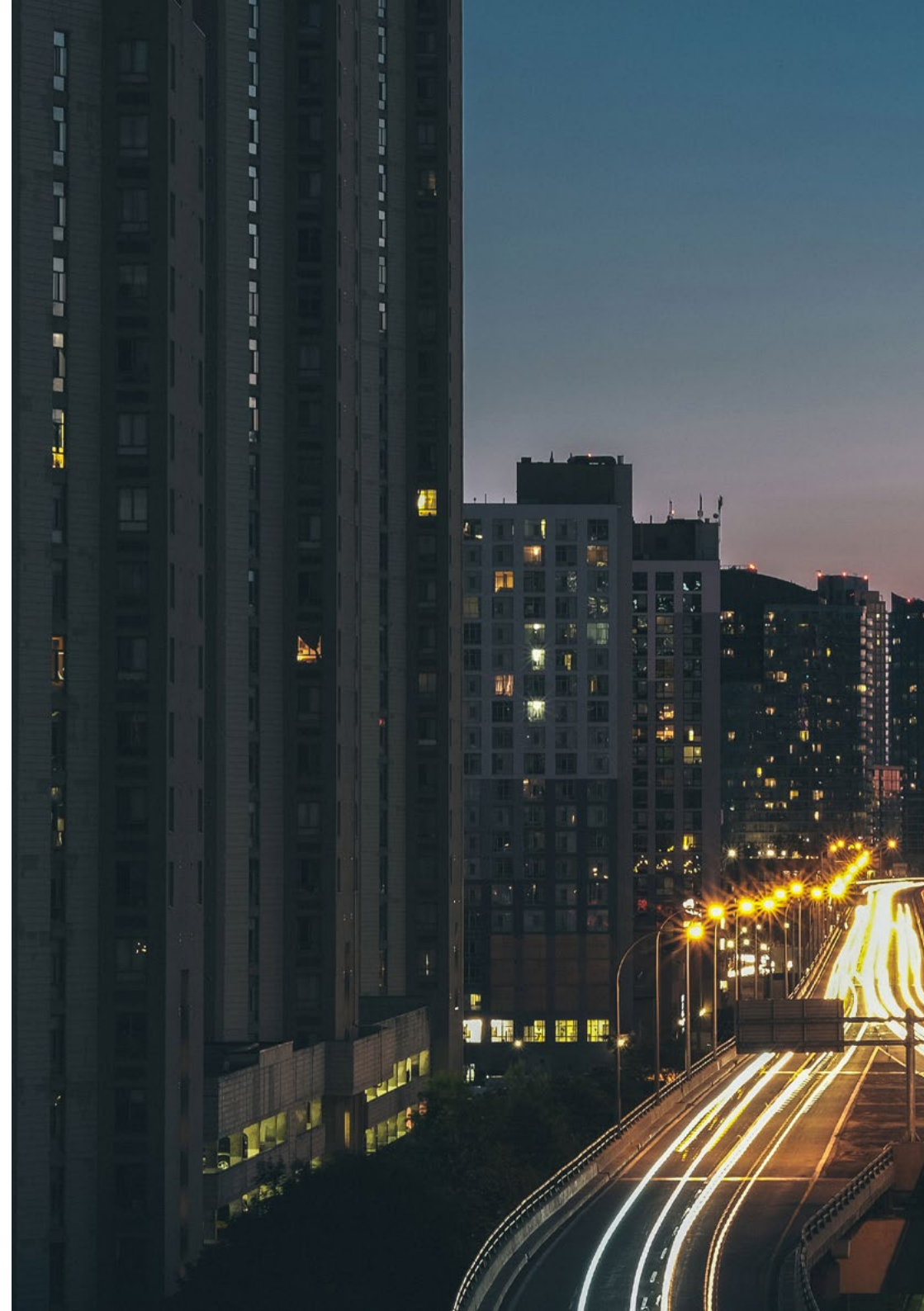
05

Where Can I Do the Internship Program?

In line with its commitment to provide the highest quality education accessible to all, TECH expands the academic opportunities for its students by allowing this Internship Program to be carried out in various prestigious international entities. In this way, graduates have the ideal opportunity to raise their professional level by working with the best specialists in the field of Artificial Intelligence.



Take advantage of this unique opportunity that only TECH offers you! You will carry out your Internship Program in a recognized Artificial Intelligence institution"





The student will be able to do this program at the following centers:



Engineering

Captia Ingeniería

Country	City
Spain	Madrid

Address: Av. de las Nieves, 37, Bloque A Planta 1
Oficina E, 28935, Móstoles, Madrid

IT company dedicated to providing advanced technological solutions to industries.

Related internship programs:

- Visual Analytics and Big Data
- Software Development

06

General Conditions

Civil Liability Insurance

This institution's main concern is to guarantee the safety of the students and other collaborating agents involved in the internship process at the company. Among the measures dedicated to achieve this is the response to any incident that may occur during the entire teaching-learning process.

To this end, this entity commits to purchasing a civil liability insurance policy to cover any eventuality that may arise during the course of the internship at the center.

This liability policy for interns will have broad coverage and will be taken out prior to the start of the practical training period. That way professionals will not have to worry in case of having to face an unexpected situation and will be covered until the end of the internship program at the center.



General Conditions of the Internship Program

The general terms and conditions of the internship agreement for the program are as follows:

1. TUTOR: During the Internship Program, students will be assigned with two tutors who will accompany them throughout the process, answering any doubts and questions that may arise. On the one hand, there will be a professional tutor belonging to the internship center who will have the purpose of guiding and supporting the student at all times. On the other hand, they will also be assigned with an academic tutor, whose mission will be to coordinate and help the students during the whole process, solving doubts and facilitating everything they may need. In this way, the student will be accompanied and will be able to discuss any doubts that may arise, both clinical and academic.

2. DURATION: The internship program will have a duration of three continuous weeks, in 8-hour days, 5 days a week. The days of attendance and the schedule will be the responsibility of the center and the professional will be informed well in advance so that they can make the appropriate arrangements.

3. ABSENCE: If the students does not show up on the start date of the Internship Program, they will lose the right to it, without the possibility of reimbursement or change of dates. Absence for more than two days from the internship, without justification or a medical reason, will result in the professional's withdrawal from the internship, therefore, automatic termination of the internship. Any problems that may arise during the course of the internship must be urgently reported to the academic tutor.

4. CERTIFICATION: Professionals who pass the Internship Program will receive a certificate accrediting their stay at the center.

5. EMPLOYMENT RELATIONSHIP: The Internship Program shall not constitute an employment relationship of any kind.

6. PRIOR EDUCATION: Some centers may require a certificate of prior education for the Internship Program. In these cases, it will be necessary to submit it to the TECH internship department so that the assignment of the chosen center can be confirmed.

7. DOES NOT INCLUDE: The Internship Program will not include any element not described in the present conditions. Therefore, it does not include accommodation, transportation to the city where the internship takes place, visas or any other items not listed.

However, students may consult with their academic tutor for any questions or recommendations in this regard. The academic tutor will provide the student with all the necessary information to facilitate the procedures in any case.

07 Certificate

This **Internship Program in Artificial Intelligence** contains the most complete and up-to-date program on the professional and educational field.

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

In addition to the diploma, students will be able to obtain an academic transcript, as well as a certificate outlining the contents of the program. In order to do so, students should contact their academic advisor, who will provide them with all the necessary information.

Title: **Internship Program in Artificial Intelligence**

Duration: **3 weeks**

Attendance: **Monday to Friday, 8-hour shifts, consecutive shifts**



future
health confidence people
education information tutors
guarantee accreditation teaching
institutions technology learning
community commitment
personalized service innovation
knowledge present quality
online training
development languages
classroom

tech technological
university

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