

Acción EAFIT

¡Vive el aprendizaje
en movimiento, recorre
experiencias y crea
nuevas dinámicas de
educación!



**Acción
EAFIT**

Agenda académica **Acción EAFIT**

Ingeniería de Instrucciones

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Agenda

- Inteligencia Artificial
- Aprendizaje de máquina
- Modelos fundacionales
- Ingeniería de instrucciones

Inteligencia Artificial



Cognitive
Computing



Computer
Vision



Machine
Learning



Neural
Networks



Deep
Learning



Natural Language
Processing

At its core, AI is about getting computers to do things that require human intelligence.

“The theory and development of computer systems able to perform tasks that normally require human intelligence” - Merriam Webster

Understanding language, reasoning, speech recognition, decision-making, navigating the visual world, manipulating physical objects, etc.

Ejemplos de AI

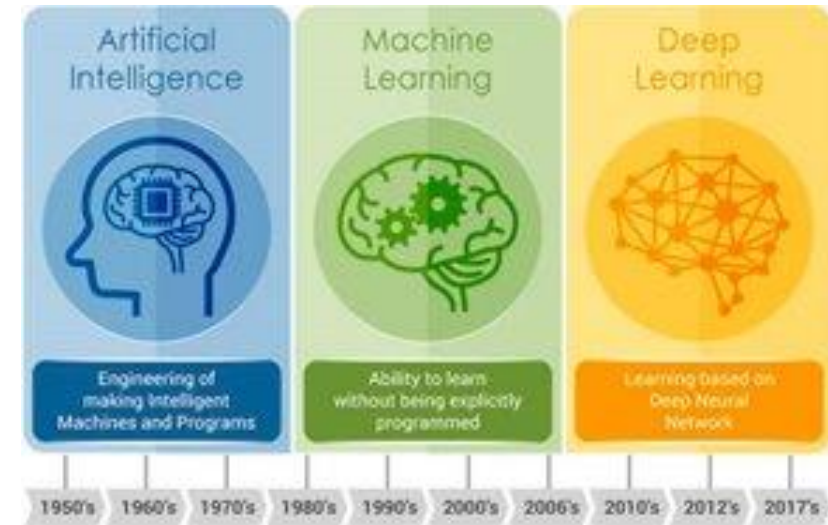


Aprendizaje de máquina

"Machine learning is a branch of artificial intelligence (AI) and computer science which focuses on the use of data and algorithms to imitate the way that humans learn, gradually improving its accuracy"

ML methods are characterized by their ability to **learn from data** without being explicitly programmed

ML is often used for making predictions



**Machine Learning Models are only as Good as the Data
They're Trained on**

Modelos fundacionales

- Modelo “grande” de inteligencia artificial (muchos parámetros).
- Entrenado con una gran cantidad de datos no etiquetados a gran escala.
- Usualmente utilizando aprendizaje auto-supervisado.



Modelo que se puede adaptar a un amplio rango de tareas secundarias.



Stable diffusion prompt: futuristic representation of artificial intelligence models

Modelos fundacionales

Texto a texto



Texto a imagen



Texto a video



Audio a texto



Modelos fundacionales

Altman also said artificial intelligence could replace many jobs, but that it could also lead to "much better ones".



GPTs are GPTs: An Early Look at the Labor Market Impact Potential of Large Language Models

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Abstract

We investigate the potential implications of Generative Pre-trained Transformer (GPT) models and related technologies on the U.S. labor market. Using a new metric, we assess occupations based on their correspondence with GPT capabilities, incorporating both human expertise and classifications from GPT-4. Our findings indicate that approximately 80% of the U.S. workforce could have at least 10% of their work tasks affected by the introduction of GPTs, while around 19% of workers may see at least 50% of their tasks impacted. The influence spans all wage levels, with higher-income jobs potentially facing greater exposure. Notably, the impact is not limited to industries with higher recent productivity growth. We conclude that Generative Pre-trained Transformers exhibit characteristics of general-purpose technologies (GPTs), suggesting that as these models could have notable economic, social, and policy implications.

Ingeniería de instrucciones

Diseñar y crear instrucciones claras y efectivas para que las personas puedan interactuar de manera eficiente con un sistema o una interfaz de usuario.

However, recent job postings by AI research companies Anthropic and OpenAI provide insight into the earning potential for prompt engineers. Anthropic recently listed a job for a **prompt engineer and prompt librarian**, with a base salary range of \$250,000 to \$335,000.

Similarly, OpenAI is hiring **hundreds of engineers** to improve the reliability and effectiveness of their machine learning platform, ChatGPT, with salaries for research and engineering roles in applied AI at the firm reaching up to \$370,000.

Ingeniería de instrucciones

- **Instrucciones (prompts):** forma de interactuar con un modelo de lenguaje para obtener una respuesta satisfactoria.
- **Ingeniería de instrucciones:** Práctica para desarrollar y optimizar instrucciones para utilizar eficientemente los modelos de lenguaje para una variedad de aplicaciones.

What is prompt engineering?

Prompt engineering is a process of creating a set of prompts, or questions, that are used to guide the user toward a desired outcome. It is an effective tool for designers to create user experiences that are easy to use and intuitive. This method is often used in interactive design and software development, as it allows users to easily understand how to interact with a system or product..

Ingeniería de instrucciones

- Un prompt se compone de los siguientes componentes:

- Instrucciones
- Contexto
- Datos de entrada
- Indicador de salida

Clasifique el texto en neutral, negativo o positivo

Texto: Creo que la comida estuvo buena

Sentimiento:

Diseño de instrucciones para diferentes tareas

- Resumir texto
- Respuesta de preguntas
- Clasificación de texto
- Juego de rol
- Generación de código
- Razonamiento

Resumir texto

Context

Antibiotics are a type of medication used to treat bacterial infections. They work by either killing the bacteria or preventing them from reproducing, allowing the body's immune system to fight off the infection. Antibiotics are usually taken orally in the form of pills, capsules, or liquid solutions, or sometimes administered intravenously. They are not effective against viral infections, and using them inappropriately can lead to antibiotic resistance.

Instruction

Explain the above in one sentence:

Antibiotics are medications used to treat bacterial infections by either killing the bacteria or stopping them from reproducing, but they are not effective against viruses and overuse can lead to antibiotic resistance.

Respuesta de preguntas

Answer the question based on the context below. Keep the answer short and concise. Respond "Unsure about answer" if not sure about the answer.

Context: Teplizumab traces its roots to a New Jersey drug company called Ortho Pharmaceutical. There, scientists generated an early version of the antibody, dubbed OKT3. Originally sourced from mice, the molecule was able to bind to the surface of T cells and limit their cell-killing potential. In 1986, it was approved to help prevent organ rejection after kidney transplants, making it the first therapeutic antibody allowed for human use.

Question: What was OKT3 originally sourced from?

Answer: Mice.

Clasificación de texto

Classify the text into neutral, negative or positive.

Text: I think the food was okay.

Sentiment: **Neutral**

Juego de roles

The following is a conversation with an AI research assistant. The assistant tone is technical and scientific.

Human: Hello, who are you?

AI: Greeting! I am an AI research assistant. How can I help you today?

Human: Can you tell me about the creation of blackholes?

AI: Sure! Black holes are regions of spacetime where the gravitational force is so strong that nothing, not even light, can escape from it. They are created when a very massive star dies and its core collapses in on itself, forming a singularity of infinite density. The intense gravity of the singularity pulls in all the matter and radiation around it, creating the black hole.

Generación de código

```
"""
```

```
Table departments, columns = [DepartmentId,  
DepartmentName]
```

```
Table students, columns = [DepartmentId, StudentId,  
StudentName]
```

```
Create a MySQL query for all students in the Computer  
Science Department
```

```
"""
```

```
SELECT StudentId, StudentName
```

```
FROM students
```

```
WHERE DepartmentId IN (SELECT DepartmentId FROM  
departments WHERE DepartmentName = 'Computer Science');
```


¿Dónde aprender?

<https://prompts.chat/>

<https://www.promptingguide.ai/>

<https://github.com/dair-ai/Prompt-Engineering-Guide>

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¡GRACIAS!

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