Artificial Intelligence

What is it? Why is it relevant now? What is its significance?

Introduction

- Since the launch of chatGPT, not a single day has passed without AI being on the front pages of all media outlets. We read in media like the Wall Street Journal about the $900,000 salaries of new AI engineers, the terrifying reports from Goldman Sachs about the impact of AI on employment, or about the overwhelming reservations for the first international AI Engineers congress in San Francisco…

- But, what is AI? If it has been around for so long, why is it interesting now? And, beyond headlines, what is its real significance?

What is AI? Classic Programming vs. AI

- Classic Programming:
  - Steps to prepare a paella:
    - Step 1
    - Step 2
    - ...
- Artificial Intelligence:
  - This is a paella.
  - Now prepare one.

Phases of Artificial Intelligence

- Machine Learning.
- Internet >>> Data Science, Big Data.
- Internet + Neural Networks + GPUs >>> Deep Learning
- Data, Images.
- ...
- Language. Transformers.
  - Generative AI.
  - Github CoPilot, ChatGPT, Midjourney.
  - **LLM Applications: the beginning of AI universalization.**

Evolution of AI App Engineering

- Building AI applications in a company requires skills from Machine Learning Engineers, Software Engineers, and Product Managers. Until now, these skills were learned in separate programs for different professionals, but now integrated programs are emerging to train the new "AI Engineers."

- AI applications can be of various types (data, image, video, audio, etc), but the universalization of AI in the company comes mainly from LLM Applications, which will soon evolve to become multimodal applications.

The Old AI vs. the New AI

- Nature of the Result
  - Traditional ML: Descriptive, based on interpreting or categorizing existing information. For example, labeling an image as "cat" or "not cat."
  - Generative AI: Creative, capable of producing new and original information, like writing a paragraph about cats or generating a new image of a cat.

- Typical Applications
  - Traditional ML: Recommendation systems, predictive analysis, image classification, among others.
  - Generative AI: Advanced chatbots, virtual assistants, content generation (text, images, music), and simulations, among others.

What is the significance of the New AI?

- It is the **greatest opportunity** to create value in our time.
- It is the **biggest threat** to many companies and jobs.

Look at what top business leaders think

“Generative AI is the most powerful tool ever created. It has the potential to unleash a new era of human innovation.” **Elon Musk (fundador de Tesla).**

“Generative AI is key to solving some of the world's biggest problems, like climate change, poverty, and disease. It has the potential to make the world a better place for everyone.” **Mark Zuckerberg (fundador de Facebook).**

“The new Generative AI has the potential to change the world in ways we can't even imagine. It has the power to create new ideas, products, and services that will make our lives easier, more productive, and more creative. It also has the potential to solve some of the world's biggest problems, like climate change, poverty, and disease. The future of generative AI is bright, and I'm excited to see what it will bring.” **Bill Gates (fundador de Microsoft).**

For more detailed information about this topic

- See Chapter 1 of the book "Keys to AI". Disruption: The New and the Old AI.
- Ebook included in the course. Physical book available on Amazon.