

Con ayuda de la Inteligencia Artificial



“Con la ayuda de la IA”

- Algunas ideas sobre la Inteligencia Artificial
 - La Inteligencia Artificial en la Universidad
 - Aspectos prácticos
 - Usar y citar la Inteligencia artificial
-

Natural Language
Processing with Python

Bird, Klein
& Loper



O'REILLY

NEW 9th Edition

Oxford
Advanced Learner's
Dictionary

with new
iSpeaker iWriter
on DVD and online

OXFORD

THE LANGUAGE OF FOOD
A LINGUIST READS THE MENU

DAN
JURAFSKY



An Introduction to Statistical Learning

2nd Ed.

James · Witten · Hastie ·
Tibshirani

Chollet



Deep Learning with Python

MANNING

Ceder



The Quick Python Book Third Edition

MANNING



SECOND
EDITION

Generative Deep Learning



Foster
O'REILLY

FOURTH
EDITION

Russell · Norvig

Artificial Intelligence
A Modern Approach

GLOBAL
EDITION



Vajjala, Majumder,
Gupta & Surana



O'REILLY

Grimmer | Roberts | Stewart



Practical Natural
Language Processing



Machine Learning for Text

Aggarwal

HACE TRES AÑOS...

Jason M. Allen

"Théâtre D'opéra Spatial"

"Esto no va a parar. El arte está muerto, colega. Se acabó. La Inteligencia artificial ganó. Los humanos hemos perdido."

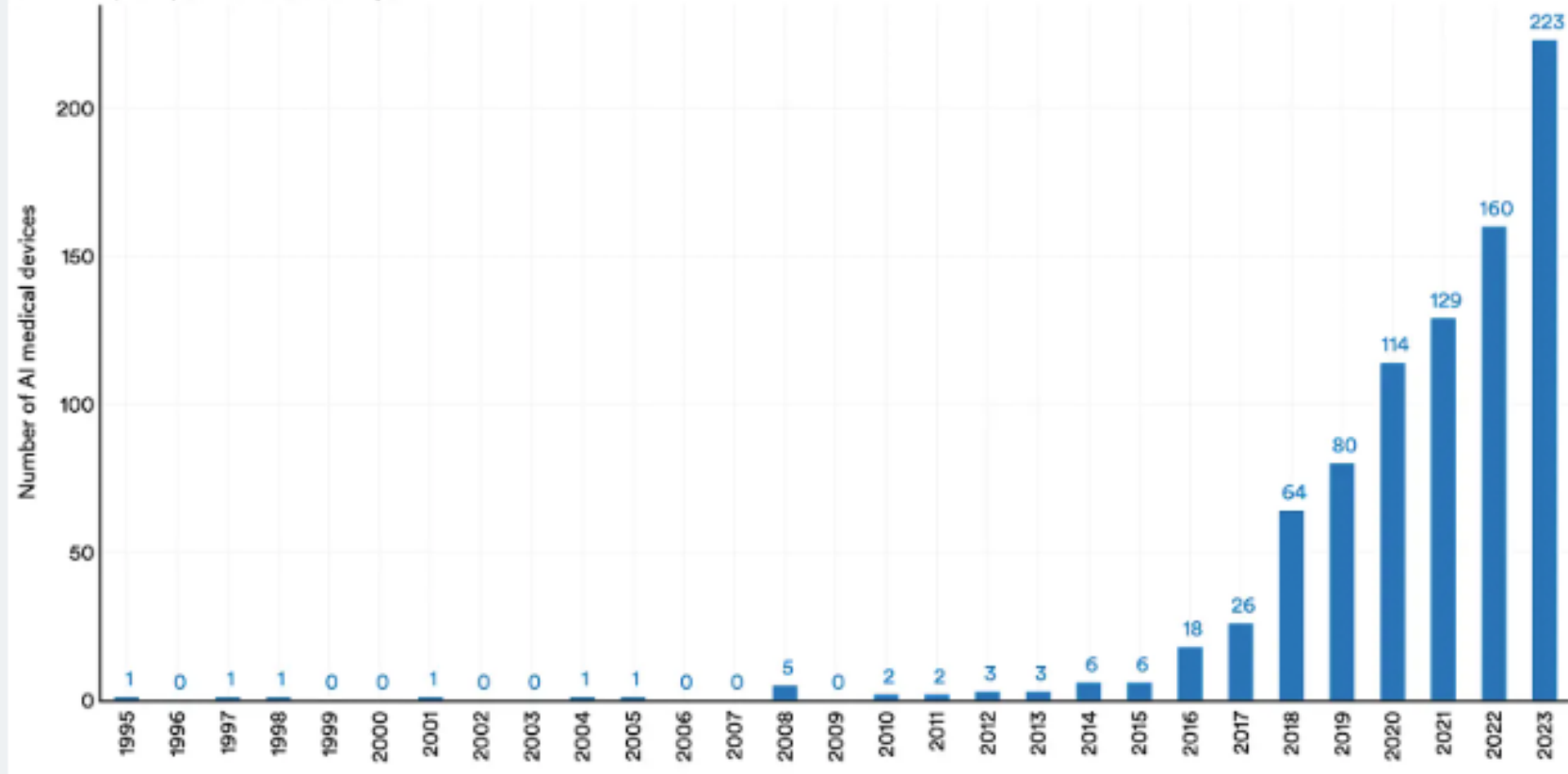


¿Tiene razón Jason Allen?

HACE DOS AÑOS: IA y Salud

Number of AI medical devices approved by the FDA, 1995–2023

Source: FDA, 2024 | Chart: 2025 AI Index report



1995 – comienzo

2015 – seis

2023 – 223

2025: Robots, IA y el futuro del trabajo

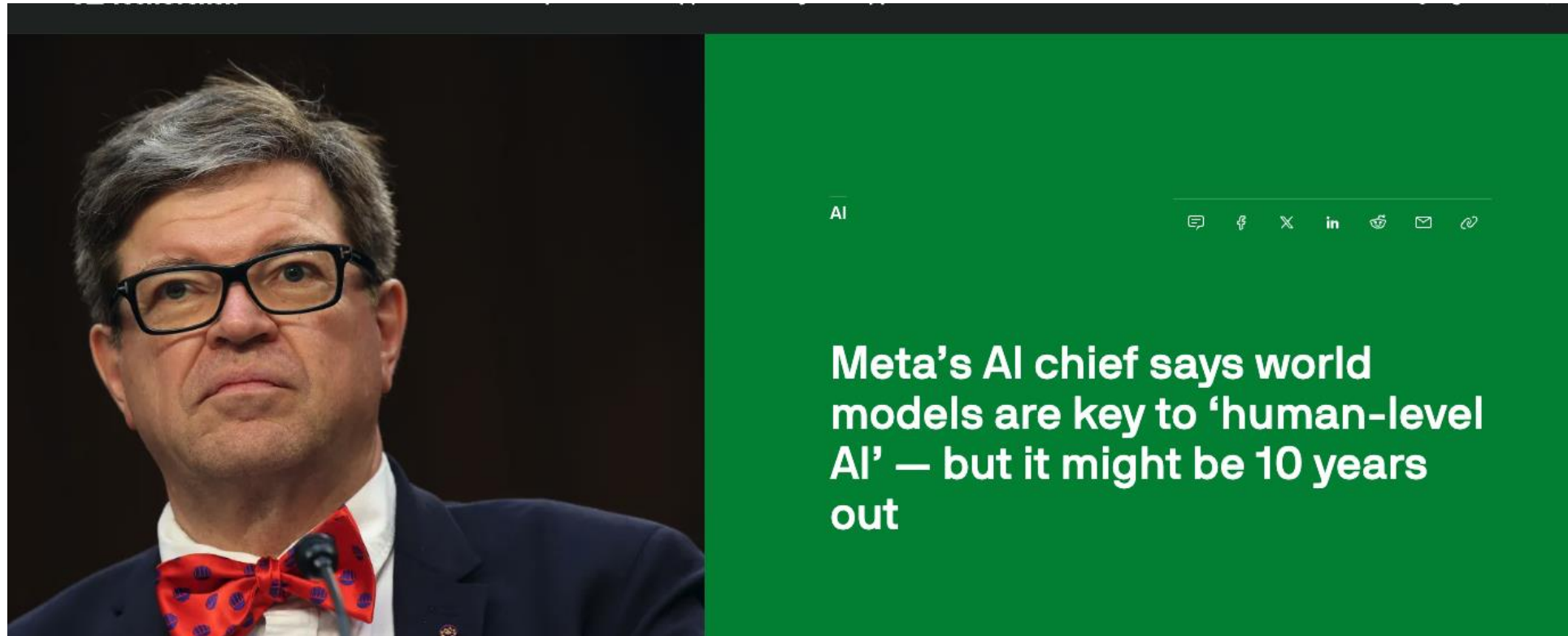
Elon Li's curbside workshop in Guangzhou, the commercial hub of southeastern China, has 11 workers who cut and weld metal to make inexpensive ovens and barbecue equipment. He is now preparing to pay \$40,000 to a Chinese company for a robotic arm with a camera. The device uses **artificial intelligence to observe** how a worker welds the sides of an oven, and then **duplicates the action** with minimal human intervention.

[The New York Times, 23/abril/2025](#)



¿Es esto el futuro que nos espera?

¿Y la Inteligencia Artificial General?



LeCun, Director de IA en Meta/Facebook y profesor en NYU

AI's effect on creativity is equally disconcerting. Studies show that AI tends to help individuals produce more creative ideas than they can generate alone. However, across the whole population, AI-concocted ideas are less diverse, which ultimately means fewer “Eureka!” moments.

Similarly, a study by researchers at Microsoft and Carnegie Mellon University in Pittsburgh, Pennsylvania surveyed 319 people in professions that use GenAI at least once a week. While it improved their efficiency, it also inhibited critical thinking and fostered long-term overreliance on the technology, which the researchers predict could result in a diminished ability to solve problems without AI support.

“It’s great to have all this information at my fingertips,” said one participant in Gerlich’s study, “but I sometimes worry that I’m not really learning or retaining anything. I rely so much on AI that I don’t think I’d know how to solve certain problems without it.” Indeed, other studies have suggested that the use of AI systems for memory-related tasks may lead to a decline in an individual’s own memory capacity.

The Guardian, 19/04/2024

¿Cuál es mejor?



"AI and Statistics: Probably Correct"

P. Arés & I. Marroquín

Pregunta	Correcta	ChatGPT	Claude	Gemini	DeepSeek
1	b	c	b	c	b
2	a	a	a	a	a
3	d (a)	a	d	d	d
4	c	c	c	c	c
5	d	b	b	d	d
6	a	a	a	a	a
7	a	a	b	b	a
8	c	c	c	c	c
9	a	c	a	a	a
10	a	a	a	a	a
11	b	b	b	b	b
12	b	b	b	b	b
13	c	d	d	b	c
14	c	c	c	c	c
FALLOS		4	3	3	0

"AI and Statistics: Probably Correct"

P. Arés & I. Marroquín

From a binomial distribution with $n = 20$, $p = 0.4$, find $P(X < 7)$

We calculate $P(X < 7) = P(X \leq 6)$ where $X \sim \text{Binomial}(20, 0.4)$

Using binomial cumulative probability:

$$P(X \leq 6) = \sum_{k=0}^6 \binom{20}{k} (0.4)^k (0.6)^{20-k}$$

Using calculator or software (e.g., R or Python), we get:

$$P(X \leq 6) \approx 0.3823$$

Answer: Approximate probability is **0.3823**.

Source

Console

Terminal ×

Background Jobs ×

R · R 4.4.3 · ~/

```
> pbinom(6, size=20, prob=0.4)
```

```
[1] 0.2500107
```

```
> |
```



```

error <- 1
threshold <- 0.005
x0 <- 1
increment <- 0.05
i <- 0

polinomio <- function(x)
{
  return (x^2)
}
derivada <- function(x)
{
  return (2*x)
}

while (error > 0.001)
{
  x1 <- x0 - increment * derivada(x0)
  i <- i + 1
  print(x1)
  error <- abs(x0 - x1)
  x0 <- x1
}
print(i)
print(x0)

```

```

error = 1
threshold = 0.005
x0 = 1
increment = 0.05
i = 0

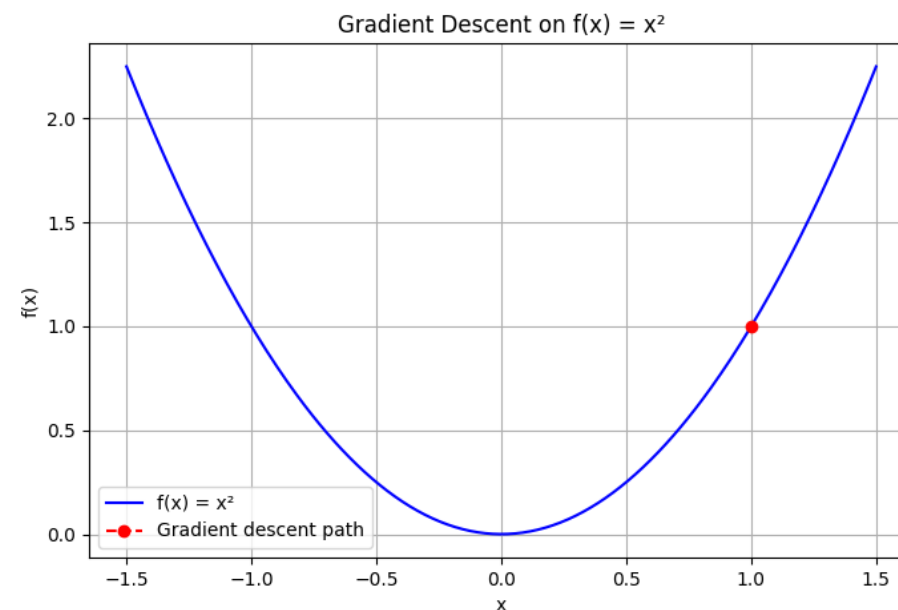
def polinomio(x):
    return x ** 2

def derivada(x):
    return 2 * x

while error > 0.001:
    x1 = x0 - increment * derivada(x0)
    i += 1
    print(x1)
    error = abs(x0 - x1)
    x0 = x1

print(i)
print(x0)

```



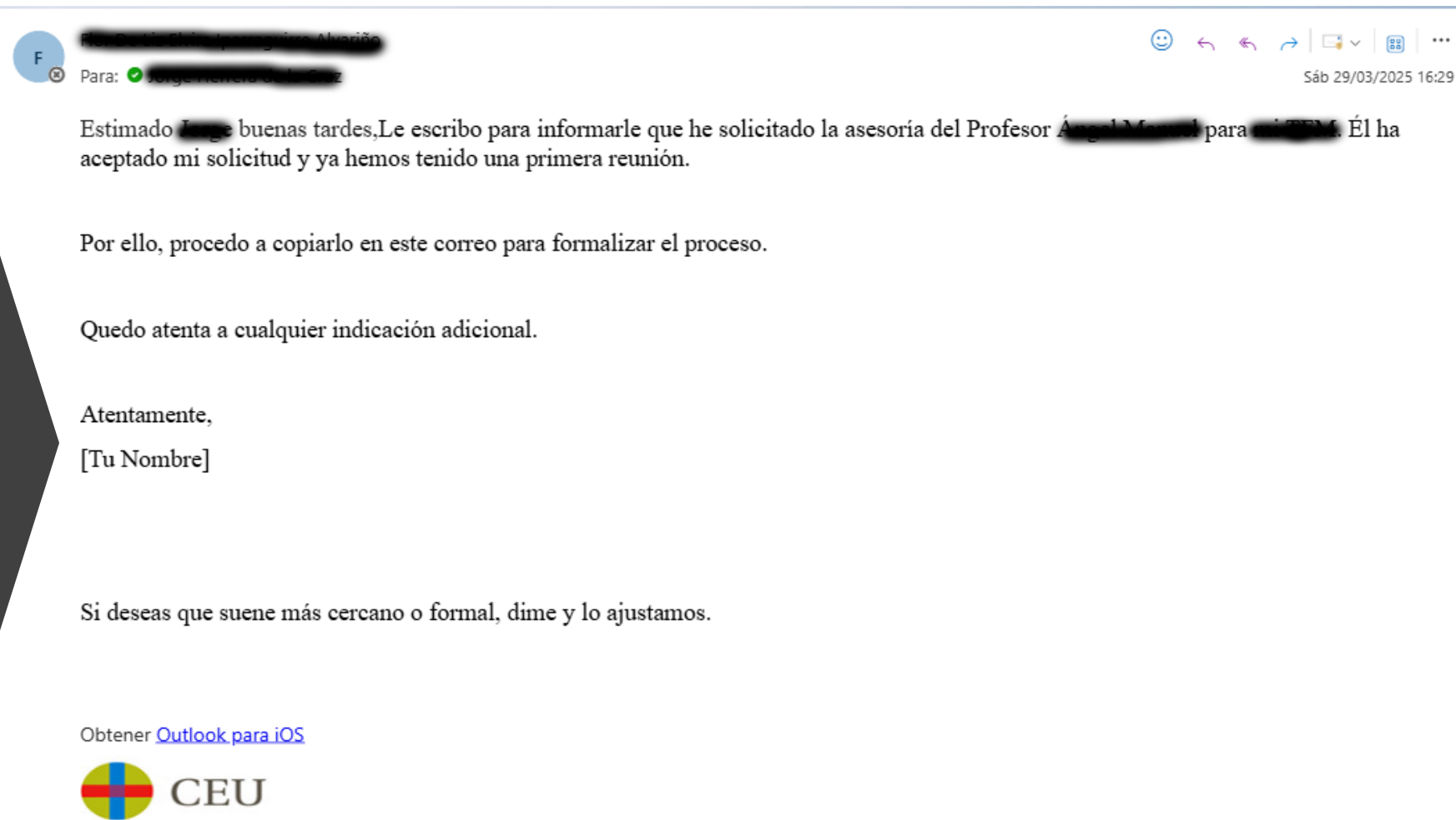
Yes, add some animation.



Awesome! Let's add an animation using `matplotlib.animation`. This will animate the gradient descent steps visually over the curve $f(x) = x^2$.

SIEMPRE COMPRUEBA LO QUE LA IA DIGA

Esto no se
hace, jajaja



Agregadores

1. NextTool, lista de herramientas de IA: <https://www.nexttool.ai>
2. Otro agregador: <https://www.synthesia.io/post/ai-tools>
3. Y uno más: <https://www.aixploria.com/en/ultimate-list-ai/>

Fuentes

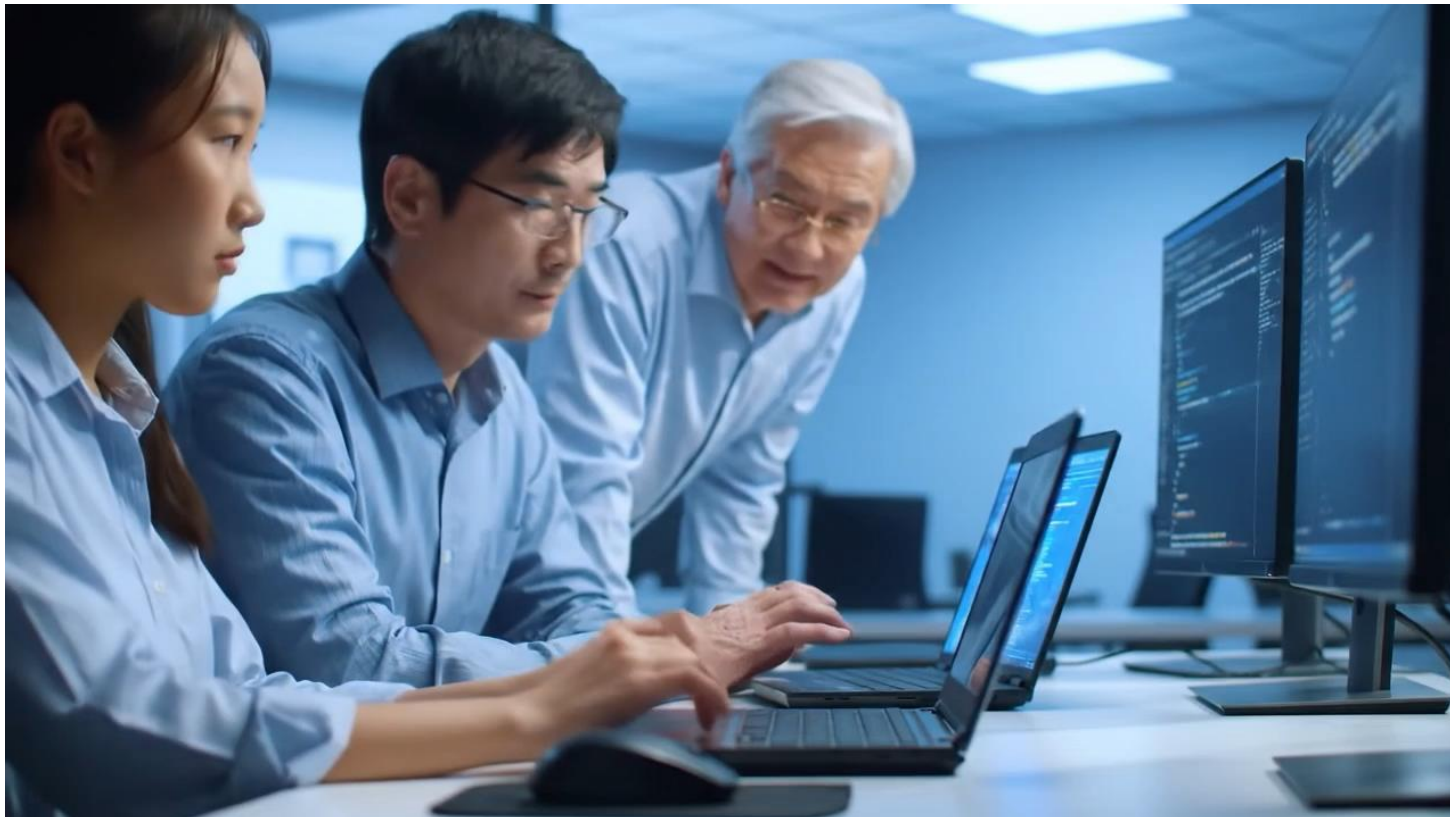
- <https://aistudio.google.com>
- <https://scispace.com>
- <https://www.heygen.com>
- <https://www.captions.ai>
- <https://www.adobe.com/es/products/firefly.html>
- <https://www.napkin.ai>
- <https://ideogram.ai/t/explore>
- [ChatGPT 4o Image Generation](#)
- <https://fliki.ai>
- <https://gamma.app>

Generate videos with Veo

A student and a professor coding with the help of AI



Run ↺



Generate videos with Veo 2

A lion moving in the sabana to hunt a zebra, the lion wears a tie, the zebra has a hat. Film with a video camera close to the ground.

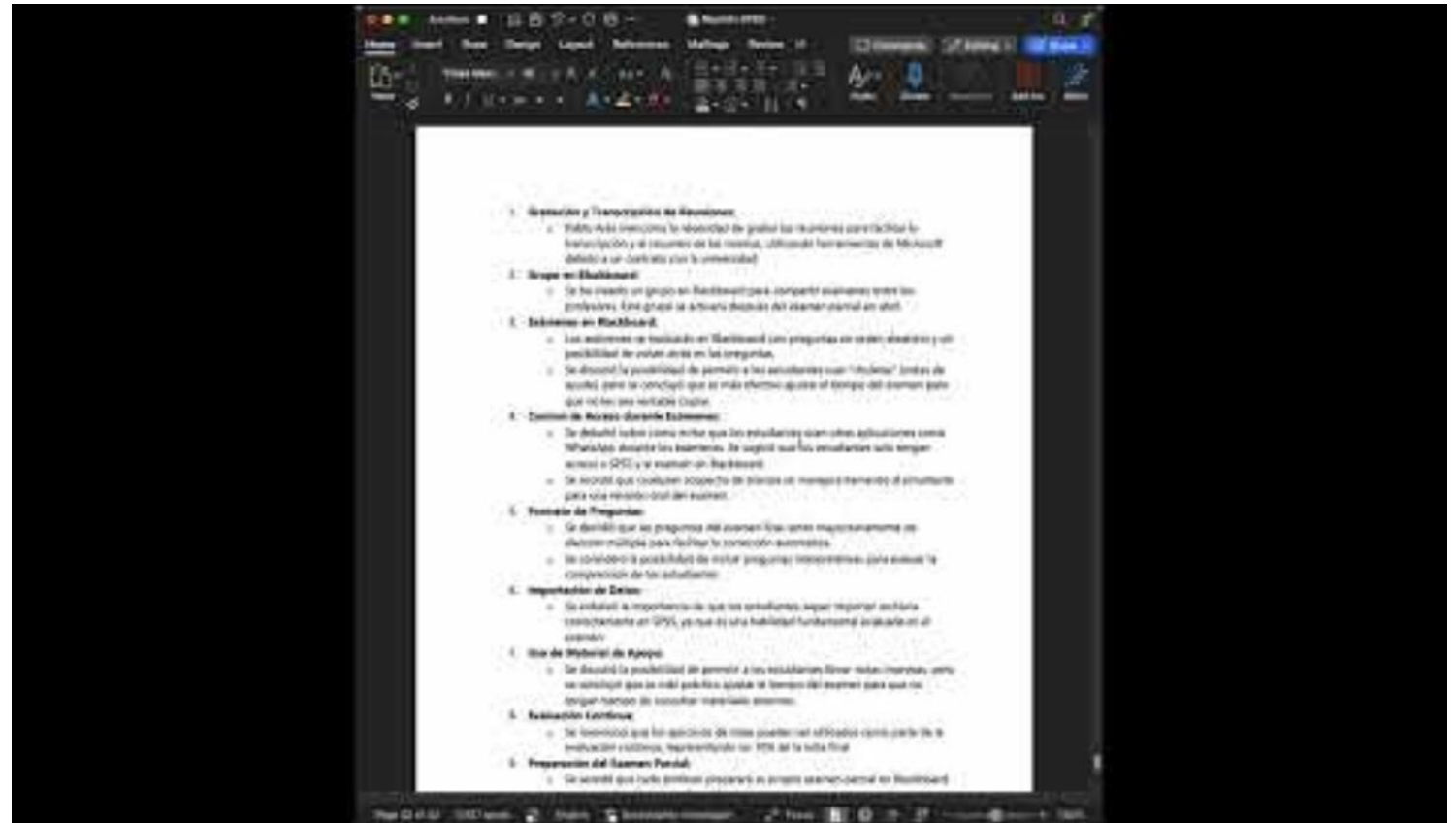


Run ↩



Resumen de una reunión

- Reunión por Teams por Internet, no presencial
- Grabar y transcribir
- Subir la transcripción a Copilot/ChatGPT y pedir un resumen



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Cite using Title or url



Journal Article ▾

Journal Article Title - The Big Picard Theorem and other results on Riemann surfaces

Journal Name - Enseign. Math.

Date - 2009

Contributing Authors - Pablo Arés-Gastesi, Tyakal Nanjundiah Venkataramana

Editors Name -

Volume - 55

Issue - 1/2

Pages - 127–137

URL -

DOI -

Publisher Name -

Extra -

Main Citation:



Arés-Gastesi, P., & Venkataramana, T. N. (2009). The Big Picard Theorem and other results on Riemann surfaces. *Enseign. Math.*, 55(1/2), 127–137.


In-text citation:



(Arés-Gastesi & Venkataramana, 2009)


[Generador bibliografía APA](#)

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 Probability and Random Variables

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✓

Chat




Probability and Random Variables

3 sources

These texts introduce fundamental concepts in probability theory, starting with the definition of **random experiments**, **basic outcomes**, and the **sample space**. They then explain how to calculate the **probability of events** using classical and relative frequency approaches, outlining key **axioms and properties of probability**. The sources further discuss **conditional probability**, **independent events**, and the **Total Probability and Bayes' Theorems**. Moving into **random variables**, the texts differentiate between **discrete and continuous types**, defining concepts like **probability distribution function**, **cumulative distribution function**, **expected value**, and **variance**. Specific distributions are explored, including the **Discrete Uniform**, **Bernoulli**, **Binomial**, **Multinomial**, **Poisson**, **Uniform**, and **Normal distributions**, along with the **Central Limit Theorem** and relationships between distributions. Finally, the sources introduce derived distributions like the **Chi-squared**, **Student's t**, and **Snedecor's F distributions**.

Save to note




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Audio Overview

Mind map

Studio

Audio Overview

 Click to load the conversation.

Load

Interactive mode BETA

Notes


+ Add note


Study guide


Briefing doc


FAQ


Timeline

 **Probability and Random Variables Fundamentals**
Click to open the Mind Map

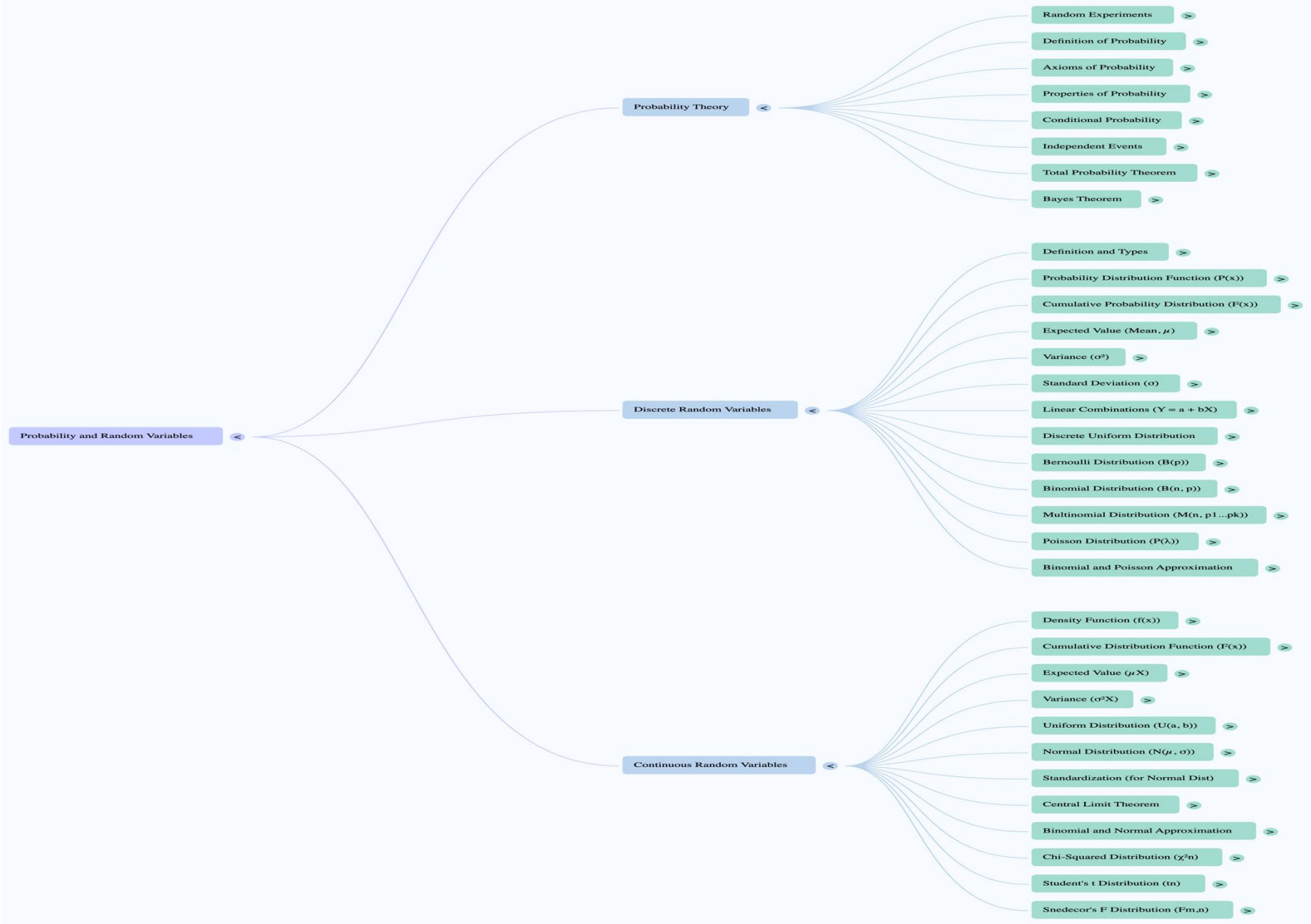
 **New note**

 **Probability and Random Variables Study Guide**
Probability and Random Variables Study Guide Quiz Answer the following questions in 2-3 sentences each. What is a random...

 **Probability and Statistics Review**
Briefing Document: Probability and Statistics Review This briefing document summarises key concepts and facts from provided...

 **Probability Theory Fundamentals**
Pablo Arés Gastesi's September 2024 notes introduce probability theory, defining random experiments, sample spaces, and events....

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What are you interested in?

Basic probability theory, discrete and continuous random variables.



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Explore the fundamentals of probability theory, covering both discrete and continuous random variables, their associated distributions, and essential concepts like expected value and variance.

Select all sources



[POLS 4150] Intro. to Probability Theory, Discrete and Continuous Distributions

Introduces core probability concepts and random variables.



Basic probability theory - Informatics Homepages Server

A beginner-friendly tutorial on basic probability theory.



Discrete and Continuous Random Variables — Modelling of Uncertainty

Compares discrete and continuous random variables clearly.



Discrete Random Variable | GeeksforGeeks

Defines and explains discrete random variables.



Probability mass function - Wikipedia

Details the probability mass function for discrete variables.



10 source selected

Import

Hello, Pablo

What do you want to build?

Prototype an app with AI

An app that creates recipes from photos

TAB



Tipping Calculator

Recipe Generator

ERP Dashboard

Expense Tracker

Start coding an app

+ New Workspace

Import Repo



<https://studio.firebase.google.com>

Política sobre IA Generativa: Se espera que los estudiantes entreguen su propio trabajo en las tareas. Puedes utilizar herramientas de IA generativa (por ejemplo, Co-Pilot, ChatGPT) como lo harías con un colaborador humano. No puedes pedir directamente a las herramientas de IA generativa que te den respuestas ni copiar sus soluciones, y debes reconocerlas como colaboradoras. El uso de herramientas de IA generativa para completar sustancialmente una tarea o examen (por ejemplo, copiando directamente) está prohibido y constituirá una violación del código de honor.

<https://normas-apa.org/referencias/como-citar-chatgpt/>

Referencia

OpenAI. (2023). ChatGPT (versión del 15 de julio) [Modelo de lenguaje de gran tamaño].
<https://chat.openai.com/chat>

Cita

(OpenAI, 2023)

IA y Educación

Si un alumno no encuentra sentido en lo que aprende, buscará atajos para superar evaluaciones. Es la labor del profesor desarrollar en los alumnos la pasión por el conocimiento. Y es el deber del alumno intentar aprender con vistas al futuro, y no solo a la evaluación de cada asignatura.

MUCHAS GRACIAS

