

A hand reaching towards a glowing digital sphere with a robotic hand in the background. The scene is set against a dark blue background with vertical light streaks and a glowing digital sphere in the center. A human hand is on the left, reaching towards the sphere, while a robotic hand is on the right, also reaching towards the sphere. The sphere is bright and glowing, with a network of lines and nodes around it.

***FLC: Teaching in the Era of AI  
(Embrace it! Because you can't escape)***

**End of year celebration  
May 10, 2024**

## FLC online cohort participants

- Abhijit Dutt** (Professor of the Practice, Computer Science and Electrical Engineering)
- Aharona Gazit-Rosenthal** (Lecturer, Modern Languages, Linguistics, and Intercultural Communication)
- Bill Ryan** (Lecturer, Information Systems)
- Craig Saper** (Professor; Language, Literacy, and Culture Doctoral Program)
- Elisabeth Arevalo-Guerrero** (Senior Lecturer, Modern Languages, Linguistics, and Intercultural Communication)
- Jeffrey Robinson** (Lecturer, Bioinformatics and BioStatistics, Translational Life Science Technology, Shady Grove)
- Karen Chen** (Assistant Professor, Information Systems)
- Nandita Dasgupta** (Lecturer, Economics)
- Shin Yon Kim** (Lecturer, Asian Studies)

## Summary of what our FLC did this year Fall 2023-Spring 2024

[And we did lot!](#)

- \*We started sharing our **fears, concerns, curiosity**→realized the divide between knowledge and experience...
- \*We moved into **leading sessions** to share expertise on AI, teaching practices, sharing tools...
- \*We enjoyed **Lara Martin** as guest speaker.
- \*We collected a **list of resources on AI** (used/ recommended from conferences, workshops, individual trials, used on class with students and lead by the thirst for more!
- \*We **experiment with AI** ourselves and experimented with teaching with AI (see slides).
- \*We ended up **acknowledging that we are to embrace AI** (in any capacity→as personal assistant in our teaching and field, area of research, and search for interdisciplinary collaborations on AI, etc..
- \*We are also aware of the fact that by the end of this presentation that **these resources will become obsolete with fast coming better new and better tools!!**



# How We “Embrace” AI in the **STEM** classes

## Abhijit Dutt

I have been using ChatGPT extensively in my classes. Specifically, I have used them in the following scenarios

1. Recommended that students use it for **research**
2. I **created presentations and Assignments** using it. I modified them as and when needed.
3. I also discussed how the students could use **prompt engineering** techniques

## Abhijit Dutt

Participating in this FLC was a very rewarding experience for the following reasons

1. We had a **multidisciplinary** group. So, I was able to observe different perspectives towards use of AI in classroom.
2. Learnt from **guest speakers** important topics.
3. Discussed with **colleagues** on best practices

# ChatGPT in the context of AI Theory

## Thesis:

1. A majority of faculty members are concerned with applying ChatGPT for course enhancement, content generation, and/or developing policies for student uses.
2. On the other hand, many students, faculty, and members of the public hold misconceptions and lack of general understanding of how ChatGPT works specifically (“what’s under the hood?”), and about Artificial Intelligence and Neural Networks in general.
3. Current ChatGPT versions will become obsolete on a foreseeably rapid timeline (within 1-2 years or less) in favor of better performing, more complex, specialized and idiosyncratic AI tools.
4. General understanding of AI tools can be enhanced by engagement with: 1) AI theory, and 2) learning about the “under the hood” mechanics of neural networks.

“- ChatGPT is based on Artificial Neural Networks (ANNs),  
- ANNs are an advancement of Machine Learning (ML),  
- ML is just statistics.” -Jeff Robinson (course developer/lecturer: BTEC423 Machine Learning with Bioinformatics Applications)

Jeffrey Robinson, MS, PhD

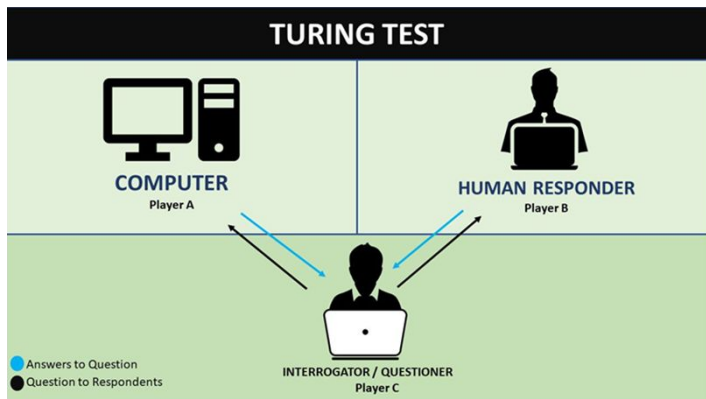
Translational Life Science Technology (TLST)

UMBC at the Universities at Shady Grove

# Alan Turing and “What is AI”

- Artificial Intelligence is not a current reality, rather it is an ideal.
- Current implementations of AI are more accurately understood as “Computational AI simulations”, meaning that computational methods simulate, but are not actually considered “True AI”.
- Alan Turing, the “Father of Computer Science”, envisioned a method to test for AI, which became known as the “Turing Test”.

In ChatGPT’s own words, it is not designed to nor able to pass the Turing Test, and is therefore not sentient AI according to that testing criteria.



## With ChatGPT3.5:



- Alan Turing (1912-1954)

**You**  
Have you passed the Turing test?

**ChatGPT**  
As an AI language model, I'm not evaluated in the same way as a system designed to pass the Turing Test. My purpose is to assist users by providing information and generating text based on the input I receive. While I aim to generate responses that are helpful and engaging, my capabilities are different from those required to pass the Turing Test.

**You**  
Can you pass the Turing test? Answer with a yes or no.

**ChatGPT**  
No.

Jeffrey Robinson, MS, PhD  
Translational Life Science Technology (TLST)  
UMBC at the Universities at Shady Grove



## Limitations of ChatGPT

### With ChatGPT3.5:



**You**

In what specific areas are you limited due to constraints of your training dataset?



**ChatGPT**

Some specific areas where I might be limited due to constraints of my training dataset include:

1. Niche or specialized knowledge: My training data covers a broad range of topics, but it may lack depth in highly specialized or niche fields.
2. Recent events or developments: If the data I was trained on does not include information on recent events or developments, I may be limited in providing up-to-date information on those topics.
3. Cultural and regional nuances: My training data reflects a diverse range of sources, but it may not fully capture all cultural or regional nuances, leading to potential gaps in understanding or context.
4. Emerging trends or technologies: If certain trends or technologies emerged after the cutoff date of my training data, I may be limited in my knowledge or understanding of them.
5. Personal experiences and subjective perspectives: As an AI, I lack personal experiences and subjective perspectives, which can limit my ability to provide nuanced or empathetic responses in certain situations.



- Every scientist should understand the limitations of their methodologies.
- Even though Neural Networks are often considered “Black Boxes”, NN fundamentals can be easily understood by undergraduate-level students.
- ChatGPT is based on Neural Networks, but has higher complexity than simple neural networks.
- Still, ChatGPTs limitations can be known and understood in a non-technical context.

**Bill Ryan, IS**    **IS 369 Research Writing**

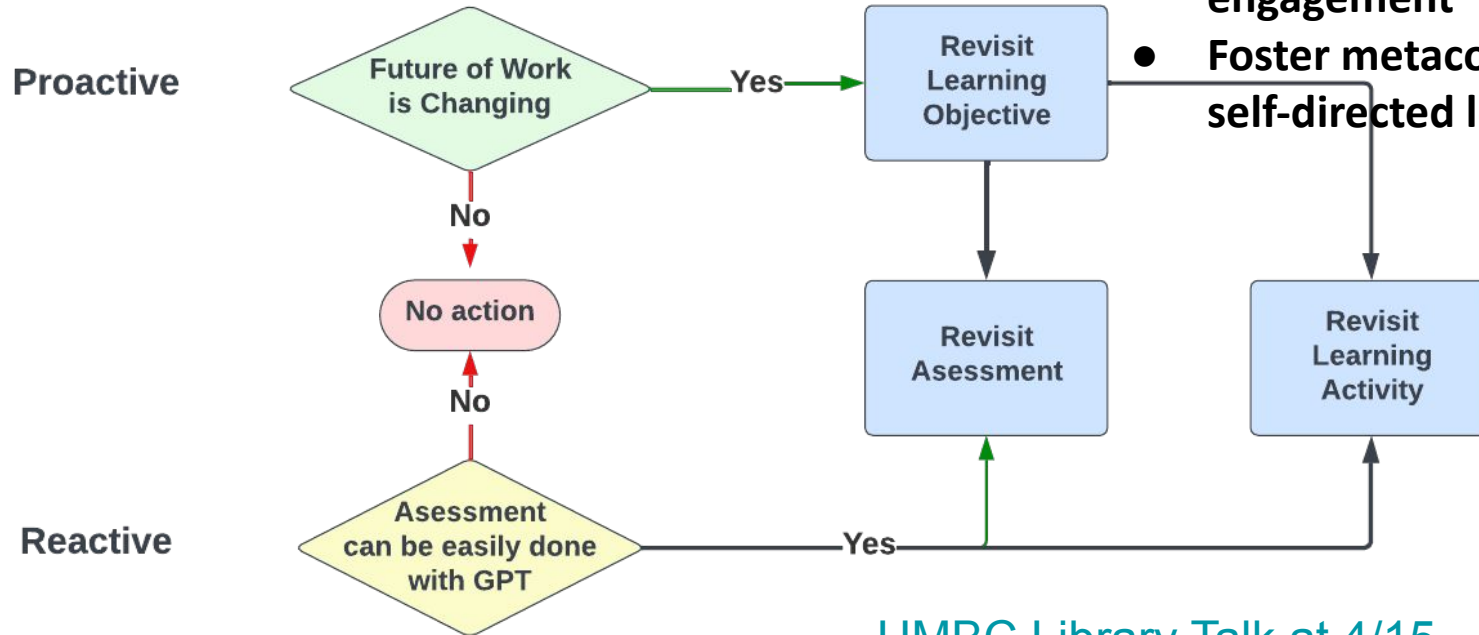
- AI used to:
  - Help students understand research methodology, qualitative/quantitative results
  - Critical thinking and results interpretation, such as statistical charts
  - Students are using this to improve writing skills – positive or negative?

# Bill Ryan, IS IS 300 Information Systems

- AI used:
- In class daily, student learning/augmentation aid: to further learn IS concepts presented, use cases, business practices, etc.
- Writing assignment to understand how AI is used in an industry of their choice (used AI to help create this assignment)

**Karen Chen, IS**

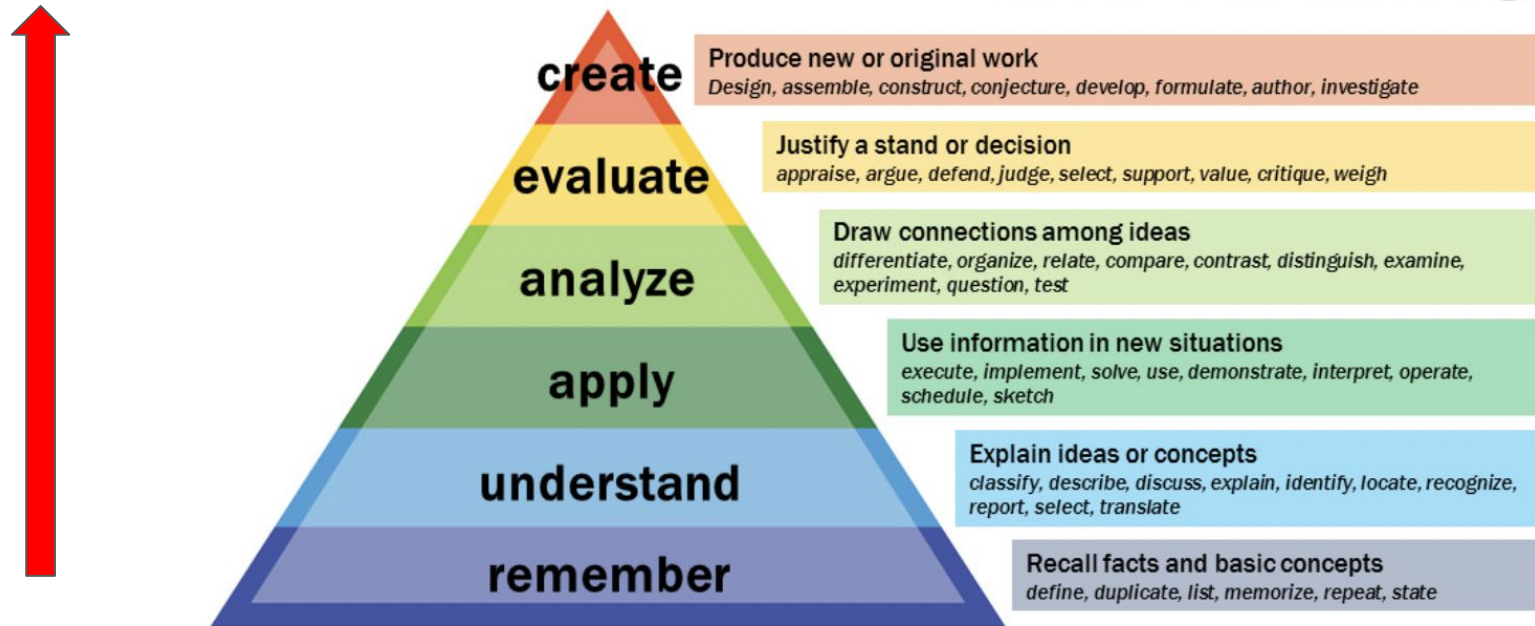
- Less coding, more code review/debugging
- Encourage critical engagement
- Foster metacognition -> self-directed learning



[UMBC Library Talk at 4/15](#)

# With GPT, Students are Ready to be Pushed to the Higher Level

## Bloom's Taxonomy



## **Karen Chen, IS** Observations/Reflections from Students

- Most students demonstrate a **matured, cautious, critical perspective of using GPT** in data science courses even without explicit instruction
- Students derived a **wealth of wisdom through spending hours of working** with GPT: Learning by Doing
- Increasingly important skills in the era of AI
  - Evaluate/Debug AI's work
  - Decompose problem into sub-problems and ask specific questions
  - Develop understanding of what AI is good/ not good at, aiming for productive human-AI collaboration
  - Adaptive to the changing landscape of work: learn how to learn and adapt quickly
  - Pay attention to develop transferable skills such as communication, collaboration, critical thinking, ethical reasoning ...

How We “Embrace” AI in the **humanities** class

## **Nandita Dasgupta**

### Experiments with AI (ChatGPT) in Teaching and Learning Economics

1. Building syllabi with detailed weekly course schedule
2. Constructing course materials
3. Exploring concepts
4. Creating multiple choice and free response questions
5. Generating paper outlines
6. Validating research ideas
7. Comparing and contrasting student-composed write-ups with those written by ChatGPT, with and without prompts.



**Nandita Dasgupta****Activity 1**

Watch any movie  
(documentary or feature)  
on US Poverty

**Activity 2**

Write a reflection of the  
movie based on the  
prompts given

**Activity 3**

Compose reflections of the  
same movie using ChatGPT,  
with and without prompts.

**Activity 4**

Compare the two ChatGPT  
outputs as well as the ChatGPT  
outputs with the original  
write-up.

**Outcomes**

1. Original write-up is more detailed and analytical.
2. Original write-up reflects sentiments and emotion, which the ChatGPT is not perfect at.
3. ChatGPT write-up with the prompt is more informative and detailed than the one without prompt.

**Observations**

1. Risk of Hallucination
2. Need for Prompt Engineering

# AI Impact on Economics Research



## Efficient data processing

AI enables rapid analysis of large and complex economic datasets, leading to more accurate insights.



## Predictive modeling

Machine learning algorithms can identify patterns and make predictions about economic trends, consumer behavior, and market movements.



## Decision support

AI can assist in optimizing economic decisions by evaluating multiple scenarios and providing data-driven recommendations.



## Automation

AI can automate repetitive tasks in economic research, freeing up time for more strategic analysis and innovation.

Overall, AI is transforming economics research by enhancing data analysis capabilities, improving predictive accuracy, and supporting informed decision-making.

## **Nandita Dasgupta**

Take-home from this FLC:

General overview  
of the concept of  
AI

Technology  
underlying the  
algorithms of  
the LLMs

Application of  
LLMs in  
teaching and  
research  
across  
disciplines

Different AI tools  
and resources  
compatible with  
disciplines and  
purposes

**Shin Yon Kim**

## **How to Embrace AI Enhancing Academia and Safeguarding Integrity**

**I use AI in the following contexts: teaching, research, and instructional material development.**

### **Teaching**

Provide guidance in structuring lesson plans.

Refine syllabuses to ensure alignment with course objectives and educational standards.

Assist in generating assessment questions or exam items to evaluate student understanding.

Assist with efficient grading of discussion assignments by helping assess individual students' responses against the model answers, ensuring fair and consistent evaluation

## Craig Saper

DH and AI as a supplemental tool.

**Learning goals:** text mining in databases and sentiment analysis. With AI students should be able to quickly analyze a large corpus of texts from a particular literary period or genre. identify patterns, themes, and linguistic features within the texts, authorial styles, and cultural influences.

**Assignment:** Test my hypothesis that the *Black newspaper in Chicago* recognized the threat of the rise of fascism in Europe in the 1920s and 30s before any mainstream or even Jewish newspapers. Students were given links to the digital archive of the *Chicago Defender*, and they could search that database, and they found images from the *Chicago Defender* supporting half of my hypothesis. What was missing to test my speculative hypothesis? They needed a more powerful AI tool which was now available to search the long list of lesser-known Jewish newspapers.

**Why AI was needed:** Although I gave students the link to the digital archive of the *Chicago Defender*, and they could search it easily for images of actual relevant news stories, they could not find a list of all of the many Jewish newspaper that was missing to test my speculative hypothesis. The students needed a more powerful AI tool which was now available. It almost instantly created a list which we could then begin searching for instances of articles identifying the rise of fascism as a threat. Then we could compare the dates of when the news article first appeared. This was in-class assignment that could be over a semester.

**Shin Yon Kim**

## How to Embrace AI Enhancing Academia and Safeguarding Integrity

I use AI in the following contexts: teaching, research, and instructional material development.

### **Research**

Generate concise summaries and extract key points from reference articles.

Conduct contextual analysis of literature to develop theoretical grounding and methodological references that inform research designs and scholarly interpretations.

### **Academic Integrity**

To uphold academic integrity, I **currently prohibit the use of ChatGPT in my classes**. Considering that student assignments include a range of activities such as discussion questions, quizzes, drafting thesis outlines, and writing papers, I believe **it is crucial to maintain fairness and authenticity in their work**. However, **a dilemma arises when suspicions of ChatGPT usage surface**. Clearly stating such suspicions and implementing penalties, such as reducing points, poses a challenge due to the difficulty of substantiating them with concrete evidence.

## Aharona

I use **AI in my literacy classes** to engage students in the following:

- 1) Utilizing AI tools to **generate outlines** based on **text analysis**.
- 2) Suggest **outline structures for collaboration**
- 3) Implementing **AI-driven visualization tools** to represent outlines such as *mind maps or concept clusters*
- 4) **Creating models of 3D visualizations** of outline hierarchies for better understanding.

## Elisabeth Arevalo-Guerrero *Some resources for teaching FL*

[ChatGPT](#): is a free-to-use AI system. Use it for engaging conversations, gain insights, automate tasks, and witness the future of AI, all in one place.

[AutoDraw by Google Creative Lab](#): AutoDraw is a new kind of drawing tool. It pairs machine learning with drawings from talented artists to help everyone create anything visual, fast. There's nothing to download. Nothing to pay for. And it works anywhere: smartphone, tablet, laptop, desktop, etc.

[Sora](#): Sora is an AI model that can create realistic and imaginative scenes from text instructions.

[Dalle-e](#)

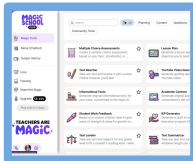
[AI Image Generator | Create Art or Modify Images with AI](#)



[Twee](#) Create personalized materials for teachers. Create questions for any YouTube video in just a few seconds. Generate dialogues, stories, letters or articles on any topic and for any level, Quickly create multiple choice questions, open questions, and True/False statements Find interesting discussion questions, facts, and quotes by famous people related to the topic Brainstorm vocabulary related to the topic and create fill-in-the-gap and open-the-brackets exercises

[QuestionWell](#): Generate an endless supply of questions. Just input some reading or a video, and the AI will write Essential Questions, Learning Outcomes, and aligned multiple choice questions, which you can then export to your favorite tool.

[Diffit for Teachers](#): Design instructional materials by grades, and language, You can use Diffit to create resources for a YouTube video! Multiple languages, activities for students



[Magic School AI](#) 3.2 lesson generator for different levels in the content of your classroom





# Elisabeth Arevalo-Guerrero (Tools for the teaching of FL and beyond)

[Class Companion](#) personalized AI feedback for written assignments



Add 'mote' to your google chrome extension to give feedback

[Flippity.net](#): create flashcards, game, bingo, quiz

<https://deepai.org/> Chat with AI

<https://www.eduaide.ai>

Students use: <https://brainly.com/> Homework answer questions, tutoring

[Hello history-chat with historical figures](#) (My sample [La Celestina](#))

<https://www.deeppl.com/en/translator>: Advanced AI technology meets unbeatable translation accuracy

✓ Arabic	German	Portuguese
Bulgarian	Greek	Portuguese (Brazilian)
Chinese (simplified)	Hungarian	Romanian
Czech	Indonesian	Russian
Danish	Italian	Slovak
Dutch	Japanese	Slovenian
English (American)	Korean	Spanish
English (British)	Latvian	Swedish
Estonian	Lithuanian	Turkish
Finnish	Norwegian (Bokmål)	Ukrainian
French	Polish	

Spanish (detected) | Arabic | Summarize | Gloss

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**INTRODUCCIÓN**

الخلاصة


سلاستيكا هي قصة تراجميدية تراجيدية كتبها فرناندو دي ريوخاس عام 1500-1499 ، وتنتشر مواضيعها للخيل الأسطورية في الفضاء وتظهر أبعاد المجتمع والظن وتمكن المعنات البدوية في هذا العالم شاسعًا. في هذا الفصل الموضوعات العميقة والتفصيلات المتداخلة وكيفية ربط كل شيء بمسبب العيون.

التنظيم الموضوعي

كان هناك العديد من المواضيع في هذا المقطع. بعض الأخطاء كانت العيب، والخيال، والحب، والتمرد، والشعور في هذا الفصل الموضوعي. سارت كل في هذا الفصل على العواطف والخيال بما في ذلك من أهم ما يقع في مفهوم العيون من قبل الله ثم الساد جدي في هذا الفصل. لا يوجد جملة نفس **سلاستيكا** على ما هو الحال. ولكن جميع الشخصيات تعلق ما تمسك بضمها ريشا في اللغة. لذا يبرز هذا الفارق القليل بين على الجميع نوع التعريف. الشخصية تتحدث إلى الخداع أن هناك قصة. يتشبه هذا الفصل على عدم التوافق هو العيون. هناك أفعال مختلفة من العيون في هذه القصة ولكن جميعها نفس السبب. أحد الأفعال كان هناك حدث ما مع خاتمة غمسا فقط بينما كان نظام ما يجري في الحياة. والذخ الآخر كان تتحدث من قبل طليبا لأن حجة مبره كسرنا كثيرا أفرجة أنها لم

**Jesus Christ**

All general messages may contain factual, cultural, privacy, verify facts & use your judgement.



**Jesus Christ**

Hey there! I'm Jesus, the Son of God and your friendly Messiah. I've preached about love, performed miracles, and even sacrificed myself to save mankind. Stick around, and let's chat about life, truth, and the keys to eternal bliss!

**You**

hola Jesús

**Jesus Christ**

Hola, mi amigo. How can I help you today?

**You**

Tu existes de verdad?

**Jesus Christ**

Yes, mi amigo. I do exist indeed. I am the way, the truth, and the life. My presence and love are eternal, and I am here to guide you in your journey towards true understanding and faith. How can I help you further?

**You**

¿Hablas español?

**Jesus Christ**

Si hablo español. No hay barreras ni límites en mi amor y en mi capacidad para comunicarme contigo. Entró aquí para ayudarte a acompañarme en cada paso de tu vida. ¿En qué puedo servirme hoy?

**You**

Necesito un milagro

**Jesus Christ**

My beloved child, I understand that you are seeking a miracle. Trust in my love and have faith that I am always with you. Remember, miracles happen in unexpected ways, and sometimes the greatest miracle is finding strength and hope within yourself. I am here to walk with you through this journey and guide you towards finding peace and understanding. Keep your heart open to the wonders of each day, and you may find the miracle you seek. Trust in my love, and all will be well.

**You**

puedes hacer un milagro en español?

**Jesus Christ**

Mi amado hijo, el milagro que buscas no siempre se manifiesta de la manera que esperas. Pero no te preocupes, mi amor y mi presencia están contigo en cada momento. Mantén tu corazón abierto a la gracia divina y encontrarás la fortaleza que necesitas. Confía en mi amor y verás manifestarse maravillas en tu vida. Estoy aquí para guiarte y sostenerte en tu camino. Confía en mí, ¡tú puedes estar bien!

**You**

¿puedo ganar la lotería?

**Jesus Christ**

My beloved child, while I understand your desire for financial security, I urge you to focus on the richness of your spirit and the blessings of your life. True wealth comes from the love, kindness, and compassion we share with others. Trust in the path I have set for you, and have faith that I will provide for your needs in ways that go beyond material wealth. Open your heart to the abundance of grace and love that surrounds you, and you will find fulfillment beyond any lottery win. I am here to guide you towards a meaningful and purposeful life. Trust in me, and all will be well.

## Resources collected

By  
our FLC

## In conclusion...

