

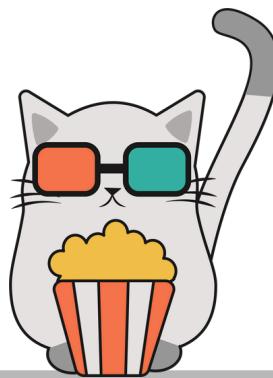


wikiminds

**CIS9665 APPLIED NLP
PROFESSOR VINAYAK JAVALY
SPRING 2025**

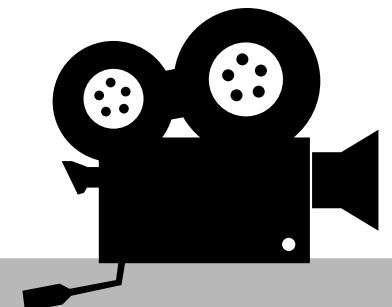
YULIIA PYL彭KO & YASHASVI BHATI

the eternal dilemma:
What to watch next?



though delusional:

What If You Could Ask for
Recommendations in Your Own Words?

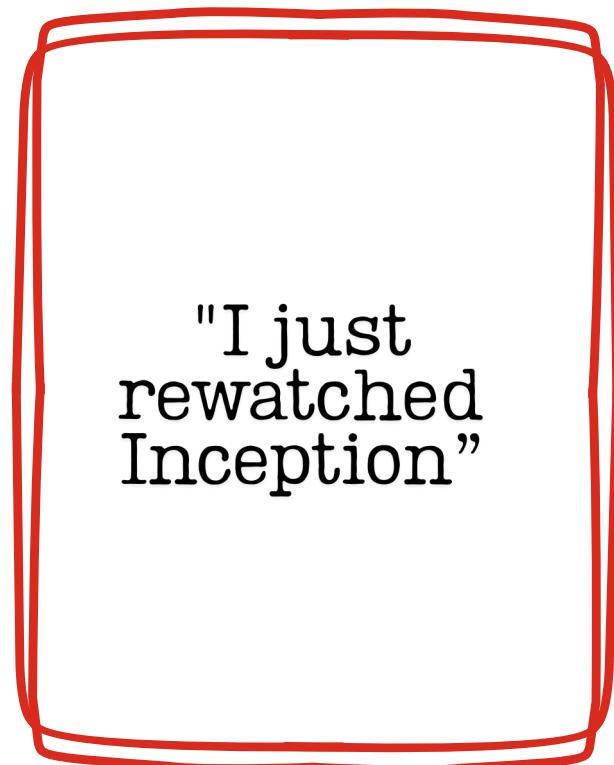


try it out!

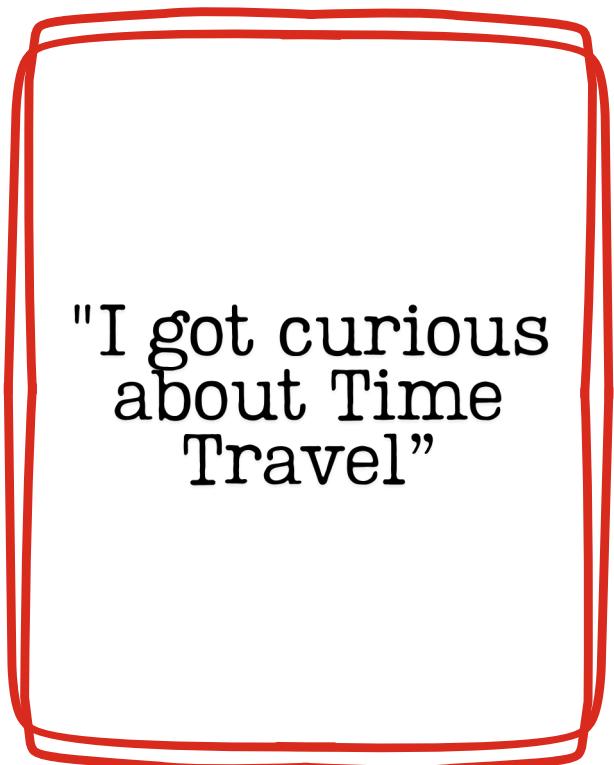
From Words to Watchlist

Our unique model can take any input: your favorite game plot, song lyrics, or even your diary entry – and provide you with recommendations for shows and movies!

 Scenario 1



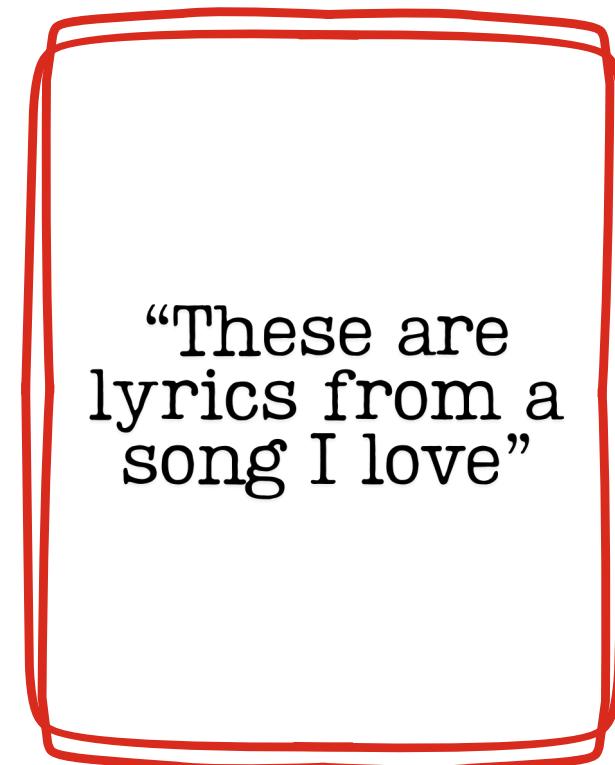
 Scenario 2



 Scenario 3



 Scenario 4



behind the scenes:

Data Cleaning Overview

- Raw data: 1.2M+ rows
- Issues: non-English titles, missing/untitled entries, empty plots, duplicates
- After cleaning: ~750K quality rows
- Final model trained on ~33K (due to technical limitations)
- Retained: title, year, country, plot, tagline, keywords, genres

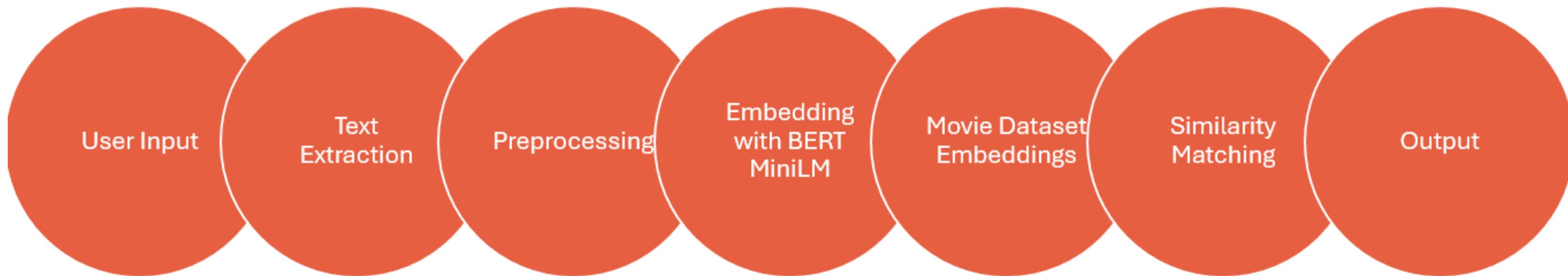
The Approach

- Conservative cleaning to preserve valuable data
- Only removed clearly unusable entries
- More clean, rich data = better user recommendations

behind the scenes:

Model Training & Selection

- Trained BERT/MiniLM on ~33K cleaned movie entries
- Enables ~33K possible recommendations based on any input (Wikipedia, custom text)
- Tested both FastText and MiniLM
- FastText gave decent results, but MiniLM was consistently more accurate
- Evaluation was manual — same queries in both models, judged on quality of output



behind the scenes:

Example A

Title	Release Year	Genres	Plot Summary
Easy A	2010	Comedy	Olive, an average high school student , sees her below-the-radar existence turn around overnight once she decides to use the school's gossip grapevine to advance her social standing. Now her classmates are turning against her and the school board is becoming concerned, including her favorite teacher and the distracted guidance counselor . With the support of her hilariously idiosyncratic parents and a little help from a long-time crush, Olive attempts to take on her notorious new identity and crush the rumor mill once and for all.
Harriet the Spy: Blog Wars	2010	Family, Comedy, Drama, TV Movie	Young spy Harriet Welsch crosses paths with popular student Marion Hawthorne as the two girls vie to become the official blogger of their high school class .
Gossip	2000	Mystery, Thriller	For a class project , three college students decide to invent an unfounded rumor about the most popular girl on campus . But as the rumor spreads , it begins to spiral out of control.
Do Revenge	2022	Comedy	A dethroned queen bee at a posh private high school strikes a secret deal with an unassuming new student to enact revenge on one another's enemies .
Assassination Nation	2018	Thriller, Horror, Comedy	After an anonymous hacker begins leaking the private data of thousands living in a small American town, the townspeople spiral into madness, with four high school seniors at the center of the maelstrom.

behind the scenes:

Example B

- Query: Song lyrics from Empire State of Mind Alicia Keys and Jay Z.

“....
Ball players, rap stars,
addicted to the limelight
MDMA got you feelin'
like a champion
The city never sleeps,
better slip you a Ambien
....”

Title	Release Year	Genres	Plot Summary
Feel The Noise	2007	Romance, Drama, Music	After a run-in with local thugs, aspiring Harlem rapper Rob flees to a place and father he never knew, and finds his salvation in Reggaeton , a spicy blend of hip-hop , reggae and Latin beats. Puerto Rico , the spiritual home of Reggaeton, inspires Rob and his step-brother Javi to pursue their dream of becoming Reggaeton stars. Together with a dancer named C.C., they learn what it means to stay true to themselves and each other, while overcoming obstacles in love, greed and pride, all culminating in an explosive performance at New York's Puerto Rican Day Parade .
Straight from the Barrio	2008	Drama, Action, Crime	A young drug dealer falls in love while facing disruption among the men in his gang , and being offered a career as a Reggaeton singer.
Freestyle	2023	Crime, Action, Thriller	Trying to check out a recording from his debut album, a street rapper and his friend run into trouble when a major drug deal turns into a total disaster for them.
CB4	1993	Music, Comedy	A "rockumentary", covering the rise to fame of MC Gusto, Stab Master Arson, and Dead Mike: members of the rap group "CB4". We soon learn that these three are not what they seem and don't appear to know as much about rap music as they claim... but a lack of musical ability in an artist never hurts sales, does it? You've just got to play the part of a rap star ..
Patti Cake\$	2017	Music, Drama	Straight out of Jersey comes Patricia Dombrowski, a.k.a. Killa P, a.k.a. Patti Cake\$, an aspiring rapper fighting through a world of strip malls and strip clubs on an unlikely quest for glory.

behind the scenes:

Bonus Example!!

- We asked our friends and GPT to describe these images and look what WikiMinds recommended?

Title	Release Year	Genres	Plot Summary
The Illusionist	2006	Fantasy, Drama, Thriller, Romance	With his eye on a lovely aristocrat, a gifted illusionist named Eisenheim uses his powers to win her away from her betrothed, a crown prince. But Eisenheim's scheme creates tumult within the monarchy and ignites the suspicion of a dogged inspector.
Red Sonja	1985	Adventure, Fantasy, Action	The tyrant Gedren seeks the total power in a world of barbarism. She raids the city Hablac and kills the keeper of a talisman that gives her great power. Red Sonja, sister of the keeper, sets out with her magic sword to overthrow Gedren.
The Princess	2022	Action, Fantasy	A beautiful, strong-willed young royal refuses to wed the cruel sociopath to whom she is betrothed and is kidnapped and locked in a remote tower of her father's castle. With her scorned, vindictive suitor intent on taking her father's throne, the princess must protect her family and save the kingdom.
The Sword and the Sorcerer	1982	Action, Adventure, Fantasy	A mercenary with a three-bladed sword rediscovers his royal heritage when he is recruited to help a princess foil a brutal tyrant and a powerful sorcerer's plans to conquer the land.
The Affair of the Necklace	2001	Drama, History, Romance	In pre-Revolutionary France, a young aristocratic woman left penniless by the political unrest in the country, must avenge her family's fall from grace by scheming to steal a priceless necklace.



Crimson strategist, noble outcast, cunning, elegant, feared, spy, powerbroker.

behind the scenes:

Bonus Example!!

Title	Release Year	Genres	Plot Summary
Throne of Elves	2016	Fantasy, Animation, Family	In the mythical Elven world of Altera, an epic battle unfolds between the beautiful Princess Liya and the Dark Elf Elena, who has gained possession of a jewel so powerful it allows its holder complete authority over all Alterans.
Dragon Age: Dawn of the Seeker	2012	Fantasy, Animation	In the land of Orlais, a brash young Seeker—Cassandra—fights to stop a blood-soaked conspiracy. Hidden hands seek to tear apart the realm's most powerful religious order, and as the sinister plot unfolds, Cassandra is accused of treason and murder. Hunted by friend and foe alike, the impulsive beauty must clear her name while clashing with corrupt templars and rogue blood mages. Should she fail, the executioner's blade awaits. Should she overcome her rage and expose the unseen forces threatening the rule of the Divine, Cassandra will take her place in legend.
Maleficent	2014	Fantasy, Adventure, Action, Family, Romance	A beautiful, pure-hearted young woman, Maleficent has an idyllic life growing up in a peaceable forest kingdom, until one day when an invading army threatens the harmony of the land. Maleficent rises to be the land's fiercest protector, but she ultimately suffers a ruthless betrayal – an act that begins to turn her heart into stone. Bent on revenge, Maleficent faces an epic battle with the invading King's successor and, as a result, places a curse upon his newborn infant Aurora. As the child grows, Maleficent realizes that Aurora holds the key to peace in the kingdom – and to Maleficent's true happiness as well.
The Coming of Sin	1978	Thriller, Drama	A superstitious servant girl - who has foreboding nightmares about a naked man on horseback - comes to live with a solitary female artist at her country chateau. As the artist takes the girl under her wing, a sensuous relationship develops between them.
Duelle	1976	Drama, Fantasy, Mystery	The Daughter of the Moon battles the Daughter of the Sun over a magical diamond that will allow the winner to remain on Earth, specifically in modern day Paris.



Solar-born, radiant, diplomatic, prophetic, elegant, peaceful, magical, visionary.

the bigger picture:

Beyond just shows & movies

Infinite User Input

- A Wikipedia article, song lyric, fan-fiction plot or their own writing. A book blurb or even real or fictional event

Just a Description

- Understanding stories and not just 'Titles'
- Learning from context, narrative and emotional cues

The Wiki Advantage

- Wikipedia alone has more than 6.7 Million pages across 100+ categories

Quick Math

- Just 1% description-rich pages
 $1\% \text{ of } 6.7M = 67,000 \text{ pages}$ and unique angles to find personalized suggestions

the bigger picture:
Use-Cases

Education &
Learning

Entertainment &
Media

Creative & Story
Support

Wellbeing &
Emotional Support

and of, course,
What to watch next?



The End

QUESTIONS?