

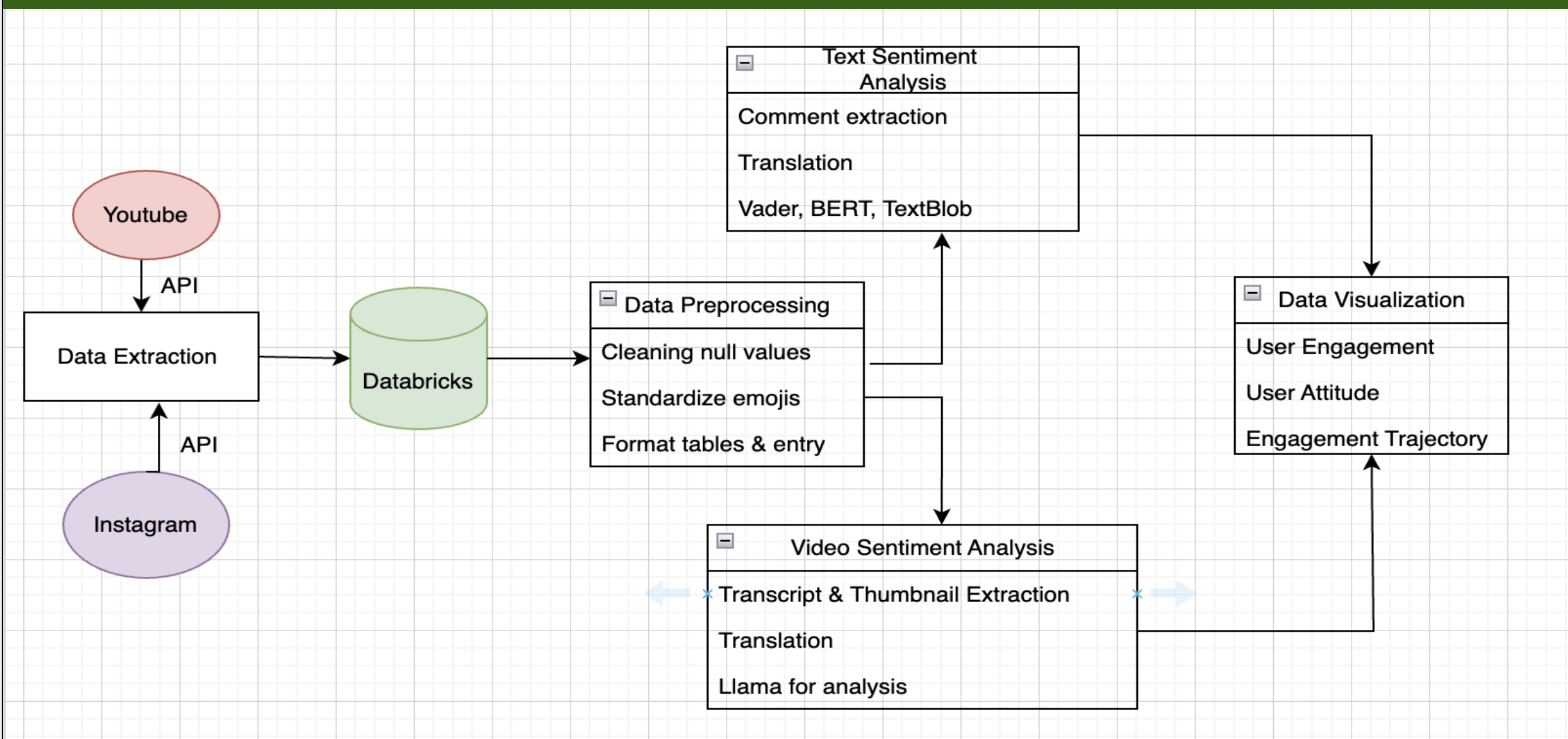
## Goals / Objectives

Our goal was to evaluate user sentiment toward the Minecraft Game and Minecraft Movie by analyzing content from various Social Media Platforms. We aimed to provide Microsoft with insights to help predict success of the movie, optimize marketing strategies, and plan future product development.

Our objectives are to:

- Develop an automated pipeline for data extraction, cleansing, and summarization.
- Conduct sentiment analysis using LLMs to assess player perception toward Minecraft and the Minecraft Movie.

## Methodology Flowchart



## Sentiment Analysis Sample Video Data

	videoID	title	description	thumbnailURL
1	_WuWjASOtDI	I Will Now Talk About the Minecraft Movie&#39;s Final Trailer	So how bout them villagers Editing and thumbnail by http://www.twitter.com/KanesTheName Channel art by @Paintreseapea.	https://i.ytimg.com/vi/_WuWjASOtDI/default.jpg
2	upV_1ubZAlg	MINECRAFT IN REAL LIFE?! YourRAGE Reacts To Minecraft Movie Trailer!	Link To The Original Video: https://www.youtube.com/watch?v=8B1EtVPB5Mw Business inquiries...	https://i.ytimg.com/vi/upV_1ubZAlg/default.jpg
3	MXsiMTDo_Dk	Minecraft Final Trailer - Angry Reaction!	Patreon > https://www.patreon.com/AngryJoeShow YT Join > https://youtube.com/angryjoeshow/join..	https://i.ytimg.com/vi/MXsiMTDo_Dk/default.jpg
4	S8nL1ws5_VE	The CANCELED Minecraft Movie	imdb should be called imd DISCORD SERVER! https://discord.gg/8JrErbyD6m JOIN ME!	https://i.ytimg.com/vi/S8nL1ws5_VE/default.jpg
5	I7t4hn7uJvQ	I Watched 'Minecraft Movie' Final Trailer in 0.25x Speed And Found This!	I WATCHED A MINECRAFT MOVIE FINAL TRAILER IN 0.25x SPEED! I break down the final trailer...	https://i.ytimg.com/vi/I7t4hn7uJvQ/default.jpg
6	Xwo1s8gSmzA	A MINECRAFT MOVIE All Trailers So Far (2025)	All A Minecraft Movie Movie Trailers 2025   Subscribe ▶ https://abo.yt/ki   Jack Black Movie....	https://i.ytimg.com/vi/Xwo1s8gSmzA/default.jpg
7	1Fw9yNdUm4g	A MINECRAFT MOVIE - All Trailers From The Movie (2025)	Watch our trailer compilation for A Minecraft Movie! In theaters April 4, 2025. Welcome to the world of Minecraft, where creativity ...	https://i.ytimg.com/vi/1Fw9yNdUm4g/default.jpg

## Sentiment Chart

	short code	thumbnail summary	sentiment score	sentiment analysis
1	DGjOJ3xEp	The Minecraft thumbnail features an image of...	NEUTRAL	The thumbnail's sentiment is neutral, as it presents...
2	DDzzqC1ybYw	The image is a movie poster for "A Minecraft Movie" ...	POSITIVE	The thumbnail conveys a lighthearted and humorous...
3	C_fvh4IAlyd	This Instagram post features a movie poster for...	NEUTRAL	The thumbnail/image does not convey any sentiment...
4	DGlsG1UyeTo	The image is a movie poster for the film "Minecraft Movie..."	NEGATIVE	The thumbnail's sentiment is more mocking than...
5	DF3VxTtTcbs	The image shows a charred piece of food on a w...	NEGATIVE	The thumbnail depicts a burnt and unappetizing...
6	DCKMRk4zcPK	The image is a promotional poster for the movie...	NEUTRAL	The sentiment conveyed by this thumbnail/image is neutral...

Figure 1: Sentiment chart depicting how our algorithm analyzes thumbnails and scores each Instagram video by its overall sentiment.

## Model Chart

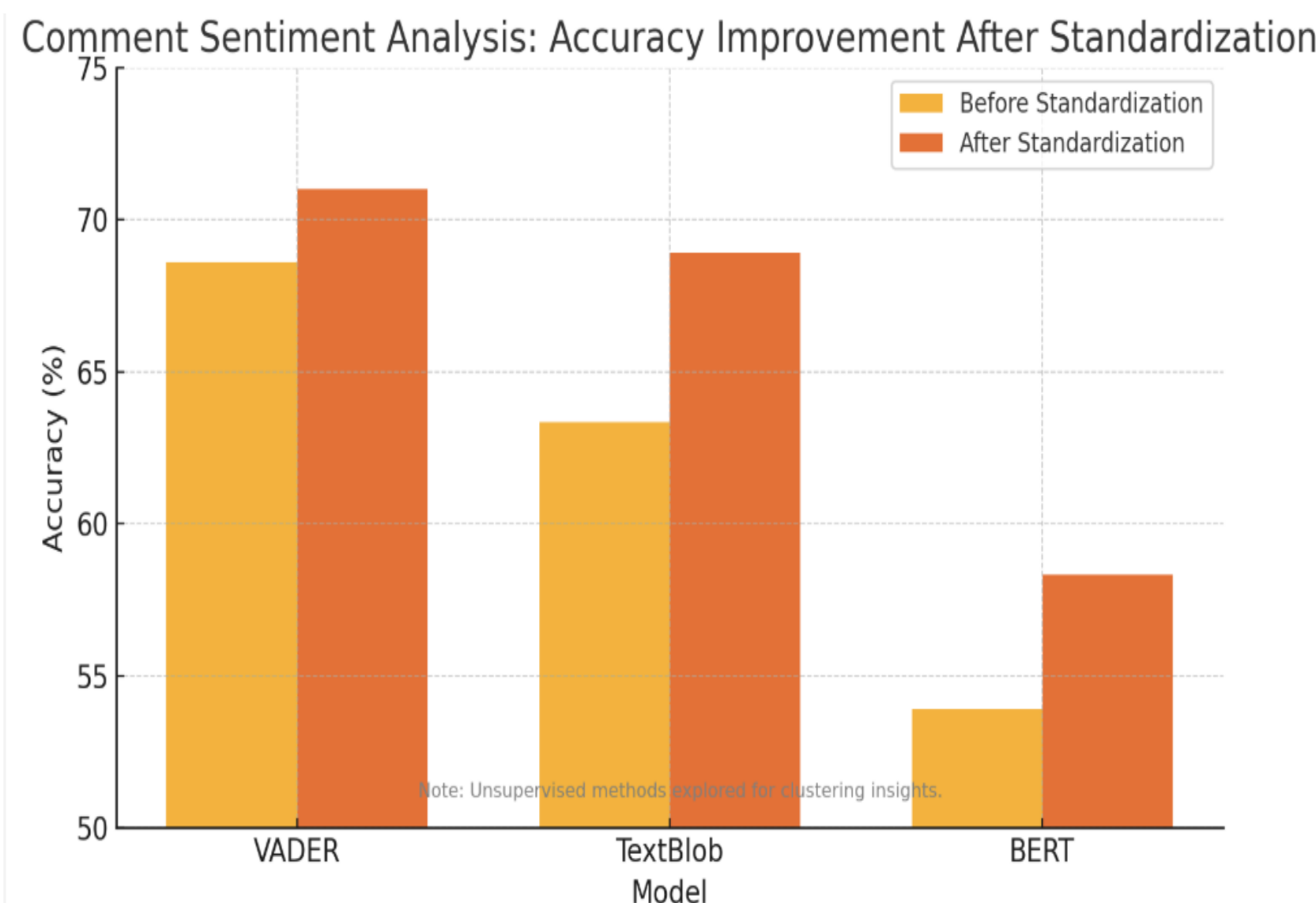


Figure 2: This graph shows how data standardization improved sentiment model accuracy across VADER, TextBlob, and BERT, highlighting the impact of preprocessing in our supervised analysis. The focus is to compare sentiment model and their effectiveness on text data.

## Conclusion

Our work resulted in a cumulative workflow where we extracted videos and thumbnails, generating summarization and sentiment analysis using Youtube and Instagram data. Our team:

- Leveraged models like VADER, BERT, ROBERTa, and Meta LLaMa for videos
- Had a Retrieval Augmented Generation (RAG) system where users could receive insights from video summaries and sentiment results

Our analysis helps creators, stakeholders understand audience perception shifts and factors influencing public sentiment towards the Minecraft movie.

## Future Work

- In the future, we want to optimize (reduce runtime, see Figure 1) and enhance error handling when considering our ETL pipeline.
- The project can be expanded to extract further insights through topic modeling and improved with SQL for secure storage and metadata separation.
- Leverage LLMs to ask questions like “What do players think about the new biome in the patch?” and reference existing sentiment analysis data to generate plain-language responses.
- Create an end-to-end, platform-agnostic dashboard that makes social media insights easily accessible without requiring users to run code.

## References and Acknowledgement

### References:

- [Link to Technical Documentation](#)
- [Sentiment Analysis Using the Vader Model for Assessing Company Services Based on Posts on Social Media](#)
- [Leveraging the BERT Model for Enhanced Sentiment Analysis in Multicontextual Social Media Content](#)

### We would like to thank:

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