

From Black & White to Technicolor: Exploring Undergraduate Classroom Capacities for AI-Assisted Data Analysis

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TXST by the Numbers

- 94% of our students are from Texas
- 40,678 students in fall 2024
- 42% of TXST students are the first in their families to attend college
- Three campuses: San Marcos, Round Rock, and Mexico

The Texas State University Student Body by Race/Ethnicity



UT Austin

34.6% White, 24.8% Hispanic or Latino, 21.1% Asian, 4.35% Black or African American, 3.61% Two or More Races [🔗](#)



TXST

40.5% Hispanic or Latino, 40.5% White, 9.13% Black or African American, 3.53% Two or More Races, 2.62% Asian [🔗](#)

Demographic Differences in AI Perceptions



Computers in Human Behavior
Volume 130, May 2022, 107182



Whose AI? How different publics think about AI and its social impacts

Luye Bao ^a ✉, Nicole M. Krause ^a, Mikhaila N. Calice ^a, Dietram A. Scheufele ^{a b}, Christopher D. Wirz ^c, Dominique Brossard ^{a b}, Todd P. Newman ^a, Michael A. Xenos ^a

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<https://doi.org/10.1016/j.chb.2022.107182>

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Highlights

- We classify Americans' AI perceptions into five segments: negative, ambivalent, tepid, ambiguous, and indifferent classes.
- Views of AI vary both by the level of news attention and the content audiences attend to.
- The negative and the ambivalent classes largely differ in support for AI, but agree that their voices should be heard.
- The indifferent and the ambiguous classes include more minorities who may be disproportionately affected by AI.
- Now is a great time to engage with the publics on issues related to AI because it is not overtly politicized.

- Bao et al. (2022) conducted a large-scale study examining AI perceptions across demographics (race, gender, political affiliation) and overall attitudes toward AI.
- Key finding: White respondents tended to have more negative views of AI, perceiving its risks as outweighing its benefits.
- In contrast, racial minorities often exhibited indifference (low perceived risks and benefits) or ambivalence (moderate perceived risks and benefits).

My Goal

Improve technological literacy to ensure our students are competing in the job market.



Julius.AI

Julius

New Thread →

My Threads (41)

Older

Dataset Summary Output

New Thread

First-Time Voter Sentiment...

Loading and Previewing T...

Loading and Displaying D...

New Thread

Peer Evaluation Analysis: ...

My Files

Inbox 3

My Workflows

Resources

Explore Workflows

Documentation >

Community Forums

Models Lab

Changelog

Account & Billing

Log Out

Kristen Leah Sussman

Google • ksussman@utexas.e...

Connected

First-Time Voter Sentiments

Python

Settings

Help

Fullscreen

You

https://docs.google.com/spreadsheets/d/1XVpFXQlCOFDvcEEvdbtdgujuSdGEFH0a5MmqMAk6SE/edit?usp=sharing

Julius

I'll help you analyze this Google Spreadsheet. Let me download it and take a look at the data.

Downloaded data from Google Sheets as CSV

Python

Rerun code

Edit code

Copy

```
1 import pandas as pd
2
3 # Download the Google Sheet (modifying URL to get CSV)
4 url = "https://docs.google.com/spreadsheets/d/1XVpFXQlCOFDvcEEvdbtdgujuSdGEFH0a5MmqMAk6SE/export?format=csv"
5 df = pd.read_csv(url)
6
7 # Display basic information about the dataset
8 print("First few rows of the data:")
9 print(df.head())
10
11 print("\nDataset Info:")
12 print(df.info())
```

Code Explanation

This code snippet retrieves a CSV file from a Google Sheet and displays the first few rows along with basic information about the dataset.

Table Click to view

Table Click to view

↓

Default

Tools

undefined Charts

Advanced Reasoning

Saved Prompts

📎

🔄

📤

Julius' Workspace

Outline

Notes

Reasoning

J Data Analysis of Google Spreadsheet

↳ Loaded Google Spreadsheet Data Over...

Summarize Opinions on First-Time Voters

J Analyze Sentiment and Content for First-Tim

↳ Sentiment Analysis of First-Time Voter ...

Sentiment Analysis of First-Time Voter Conv

J Error Generating Word Cloud From Text

↳ Error Handling For Word Cloud Generati...

↳ Error Handling and Word Cloud Generat...

↳ Pip Update Notice and Election Analysis

↳ Analyzed 2024 Election Themes and Vo...

↳ Specify TrueType Font for Word Cloud

↳ Troubleshooting Word Cloud Generatio...

First Time Voters' Important Information Inq

J Important Themes for First-Time Voters

↳ Key Issues for First-Time Voters

Key Issues for First-Time Voters

J Most Common Locations for Advertising Ca.

↳ Most Common Locations for Advertisin...

Key points about Julius AI:

Natural Language Interaction:

Users can interact with Julius by asking questions in plain language to analyze their data, requesting specific calculations, or generating visualizations. [↗](#)

No Coding Required:

The platform is designed to be user-friendly, eliminating the need to write complex code to perform data analysis. [↗](#)

Data Visualization:

Julius can generate various data visualizations like charts, graphs, and plots based on the analysis results. [↗](#)

Statistical Analysis Capabilities:

It can perform statistical tests like regressions, ANOVA, and hypothesis testing. [↗](#)

Underlying Technology:

Julius utilizes different large language models (LLMs) to understand prompts and generate the appropriate code to analyze data. [↗](#)

After the dataset has been loaded...

First few rows of the data:

Optional: Click on columns or rows to focus on specific data
* Only the first 100 columns are displayed

Export

	Query Id	Query Name	Date	Title	
0	2001921859	First time voting	2024-09-10 22:40:40.0	Over the course of the summer, the 2024 presiden...	Over the cours
1	2001921859	First time voting	2024-09-10 22:24:34.0	Not to get political, but I am so lost for this upcomi...	Not to get polit
2	2001921859	First time voting	2024-09-10 21:55:49.0	Board staff was out at Chicago Vocational High Sc...	Board staff wa:
3	2001921859	First time voting	2024-09-10 20:58:00.0	"I'm very over this being a vibes election," Pratika ...	"I'm very over
4	2001921859	First time voting	2024-09-10 19:19:39.0	PSA for naturalized citizens: You absolutely have a...	PSA for natural

Dataset Info:

RangeIndex: 3712 entries, 0 to 3711
Columns: 139 entries, Query Id to Emotion
dtypes: bool(5), float64(55), int64(30), object(49)
memory usage: 3.8+ MB

I've successfully loaded the Google Spreadsheet. The dataset contains various columns such as Query Id, Query Name, Date, Title, Snippet, Url, Domain, Sentiment, and many more. If you need any specific analysis or insights from this data, please let me know!




You

Great, thanks. I'm in a social media advertising class and want to target first-time voters. Can you summarize and describe opinions of the conversations in the dataset?





Julius

I'll analyze the sentiment and content of the conversations to help understand opinions related to first-time voters.

 Visualized sentiment distribution and displayed sample conversations

 Python

 Rerun code

 Edit code



```
1 import pandas as pd
2 import matplotlib.pyplot as plt
3 import seaborn as sns
4
5 # First let's look at the sentiment distribution
6 plt.figure(figsize=(10, 6))
7 sentiment_counts = df['Sentiment'].value_counts()
8 sns.barplot(x=sentiment_counts.index, y=sentiment_counts.values)
9 plt.title('Distribution of Sentiments in Conversations')
10 plt.ylabel('Count')
11 plt.xlabel('Sentiment')
12 plt.xticks(rotation=45)
13 plt.tight_layout()
14 plt.show()
15
16 # Let's analyze the content
17 print("\n
18 Sample of conversations with their sentiments:")
19 sample_content = df[['Full Text', 'Sentiment']].head(10)
20 print(sample_content)
```

Code Explanation

The code snippet visualizes the distribution of sentiments in a dataset using a bar plot and prints a sample of conversations along with their sentiments.




Prompts using natural language...

Prompt: Can you go back to the dataset and tell me what is important to first-time voters?

Based on the analysis of the dataset, here are the key issues and concerns that matter to first-time voters:

- **Voter Education and Registration**
 - Important deadlines for registration
 - Understanding the voting process
 - Knowing voter ID requirements
 - Access to registration resources
- **Key Policy Issues**
 - Cryptocurrency regulation
 - Social issues
 - Economic concerns
 - State-specific policies
- **Demographic-Specific Concerns**
 - Young voters' perspectives
 - College student voting (particularly at UT Austin)
 - Family voting traditions and breaking from them
 - Geographic considerations (particularly in states like Texas)
- **Political Engagement Factors**
 - Influence of social media and podcasts on voting decisions
 - Impact of family political views
 - Role of political polarization
 - Importance of making informed decisions versus voting based on "vibes"
- **Practical Concerns**
 - Location of polling places
 - Voting requirements and documentation
 - Timeline for registration and voting
 - Understanding different voting methods (mail-in, early voting, election day)

The data shows a mix of enthusiasm and concern among first-time voters, with many focusing on practical aspects of voting while also engaging with broader political issues. There's particular emphasis on young voters and college students, who represent a significant  portion of first-time voters in the upcoming election.

The Assignment: “camping” OR “first-time voters”

Social Media Listening for Advertising — Analyzing Tweets mentioning Camping

Overview: You’ll leverage social media listening data from [Brandwatch](#) to understand consumer behavior, and extract insights on topics, sentiments, interests, and behaviors. Based on your findings, create a strategic outline for using those audience insights to build a hypothetical advertising strategy.

Good to know: The dataset was collected between November 1 and November 16, 2024, meaning that this is a collection of tweets mentioning “camping” on those days.

Background: Your agency has a new business opportunity. Coleman, the maker of outdoor camping gear and equipment, is soliciting RFPs and your agency has been invited to pitch.

You’re a junior coordinator and your manager has asked you to help think about how to target potential audiences on Facebook and Instagram based on social listening data.

Goal: What can you learn from what people are saying on X about camping? Be specific. You must come up with something interesting/insightful because your job depends on it.

Don’t be shy when using Google to help when you encounter something you don’t understand or need inspiration on how to complete the assignment. “Assignment #3 - Social Media Marketing Certificate: Strategy and Optimization” is a nice precursor to this assignment to help you apply what you learn.

Assets: You’ll need to make a copy of the data to use on Julius.AI.

- Camping [dataset](#) ($n = 39,732$ mentions)
- Copy the link and drop it into [Julius.AI](#) (you may need to create a free account first)
 - Note, that you will only have ~ten queries before exceeding your free limit on the tool, so be smart about how you use your prompts.

The Assignment (cont.)

Once your data is shareable, drop the link into Julius.AI:

1. **Audience Identification:** Utilize Julius.AI to pinpoint positive and negative sentiment topics among social media users in your chosen dataset.
2. **Audience Analysis:** Examine the demographics, interests, and geographic distribution of the identified audience. Summarize and describe how your findings can lead to an understanding of the psychographics of the audience.
3. **Insights and Strategy Formulation:** Gather insights on preferences and interests, by comparing and contrasting timelines, sentiments, and topics. Outline a strategy for reaching and targeting this audience through Meta Ads.

Then submit your write-up in Canvas. Include screenshots and examples as are helpful.

Results

Completely useless? Perhaps not...



Meta Ads Strategy:

Timing:

- Run ads during peak engagement hours (1-4 AM EST).

- Insights:

- The U.S. is the main focus because of upcoming elections.

- Action: Start with the U.S., then adapt messaging for India and the UK based on local issues.

Audience Segmentation:

- Primary: Ages 18-24 (college students, young professionals)
- Secondary: Ages 25-29 (first-time voters)
- Geography: U.S., India, UK

Ad Format Recommendations:

- News Feed Ads: Use infographics, short videos, and interactive polls.
- Instagram Stories: Share quick voting tips, behind-the-scenes looks at the voting process.
- Reels: Create step-by-step voting guides and share community stories. ←

Campaign Phases:

1. Awareness: Focus on educating voters (video views, reach).
2. Consideration: Carousel ads with registration details.
3. Action: Lead ads for registration reminders and deadlines.

The analysis identified key psychographic factors like "Interest," "Sentiment," "Engagement Type," and "Page Type," offering insights into audience behaviors. These metrics help us understand what drives engagement, whether it's positive or negative sentiment, preferred content, or how they interact with brands. This allows for more targeted and effective marketing strategies. Let me know if you'd like more details

Psychographic insights for strategy are all about understanding what drives the audience like their values, interests, and lifestyles so that marketing can connect more effectively. By figuring out what motivates them, whether it's a love for adventure, family time, or sustainability, you can shape your messaging to really resonate. This helps create campaigns that feel more personal and lead to better engagement and stronger brand loyalty.

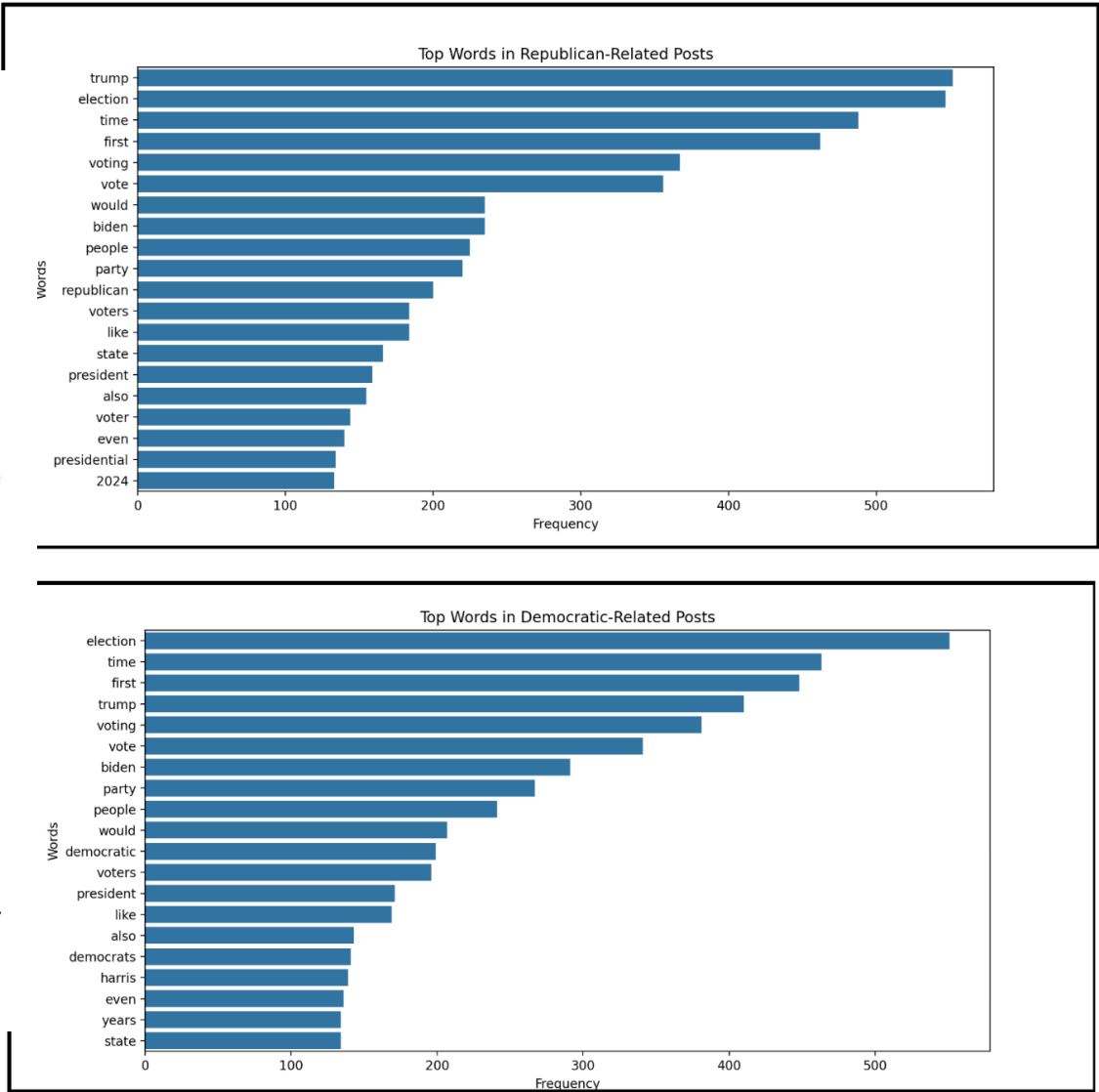
Content:

To reach the audience effectively via Meta Ads, we'll run ads during high engagement periods like weekends and peak seasons such as spring and summer. The content will focus on family camping, adventure, and eco-friendly gear, using imagery and messaging that resonate with these interests. We'll target people interested in outdoor activities, family travel, sustainability, and specific camping locations using Meta's audience segmentation tools. Messaging will tap into positive sentiments around nature and adventure, highlighting how the brand enhances those experiences, with emotional appeals about family bonding. Additionally, retargeting campaigns will be created based on previous engagement with camping-related content.

Social Media Listening Assignment #2

For this assignment, I used Julius.ai to extract insights on topics, sentiments, interests, and behaviors of first-time voters surrounding the 2024 presidential elections. This is what I discovered:

- **Audience Identification**
 - The audience in the dataset includes a mix of genders, locations (especially in swing states), and political affiliations. There was some positive sentiments, with many talking about being proud and excited to vote for the first time. One user spoke about the excitement of seeing their friends vote saying, “I personally have 2 friends who will be voting for the first time in a presidential election because they have become U.S. Citizens! I’m so excited for them...”
 - Some of the neutral sentiments included users focused on figuring out the process, like registration and ID requirements. Many of them were sharing election and voting information that could be helpful to others.
 - Negative opinions were also expressed within the dataset, with many users showing frustration with barriers or distrust in the system. One user said, “First time voter and it’s the worst election year ever.” There was also a significant amount of animosity between both political parties (Republicans vs. Democrats) with one user saying, “MAGA cult sees more votes than 4 years prior and they scream fraud... I’m 27, never voted, this year I am.”
- **Audience Analysis**
 - The dataset presented hashtags and keywords that highlighted the emotions and interests of first-time voters. Julius.ai provided me with a few graphs that helped me determine geographic and demographic information for first-time voters. Here are some of the graphs it gave me:



Have you observed any changes in student outcomes or learning experiences because of using AI in your teaching? (Select all that apply)

- ☐ Improved student engagement and participation
- ☐ Higher quality of student work and submissions
- ☐ Faster response times to student inquiries and assignments
- ☐ Better tracking of student progress and performance
- ☐ Increased accessibility and support for students with disabilities
- ☐ Greater student satisfaction with course delivery

☒ No significant changes observed

☐ Negative impacts (e.g., over-reliance on AI, reduced critical thinking)

☐ Other (please specify):

Michelle Cadena

SOCIAL MEDIA CAMPAIGNS PORTFOLIO

[CONTACT ME](#)



About Me

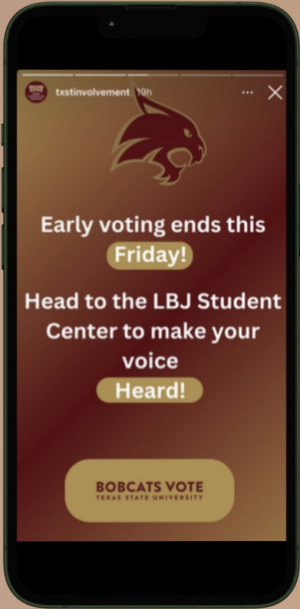
Hi, I'm Michelle Cadena, an advertising student at Texas State University with a knack for blending creativity and strategy.

I've always been drawn to storytelling, whether it's through crafting engaging Instagram posts, producing PSAs at KTSW-FM, or brainstorming big ideas for brands. My love for advertising lies in its ability to connect people, spark conversations, and bring ideas to life.

When I'm not buried in Adobe Creative Suite or preparing scripts for radio ads, you can find me exploring new restaurants, catching live music, or planning my next travel adventure.

I thrive on collaboration, innovation, and the little moments where a spark of inspiration turns into something real. Let's create something memorable together.

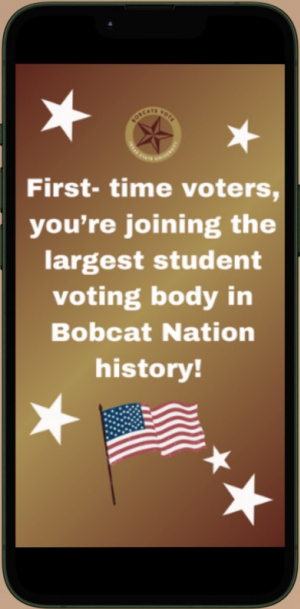
Feel free to drop me a message, I'd love to connect!



Early voting ends this Friday!

Head to the LBJ Student Center to make your voice Heard!

BOBCATS VOTE TEXAS STATE UNIVERSITY



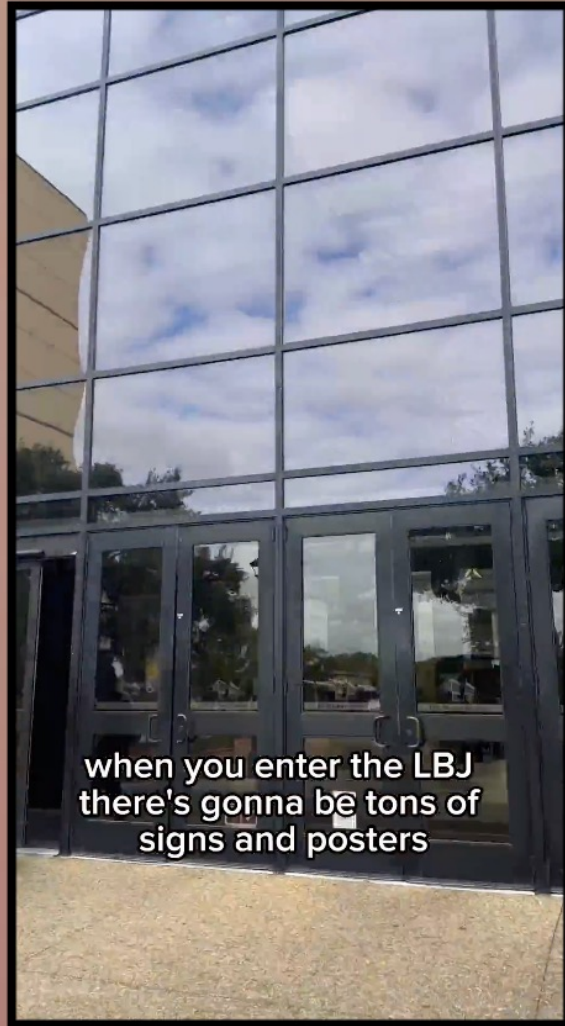
First-time voters, you're joining the largest student voting body in Bobcat Nation history!

Social Listening Analysis

I used Julius.ai to analyze audience sentiment and behavior, providing insights that shaped targeted messaging and informed the campaign's content strategy.

[VIEW ANALYSIS](#)

TXST Votes Campaign IRL



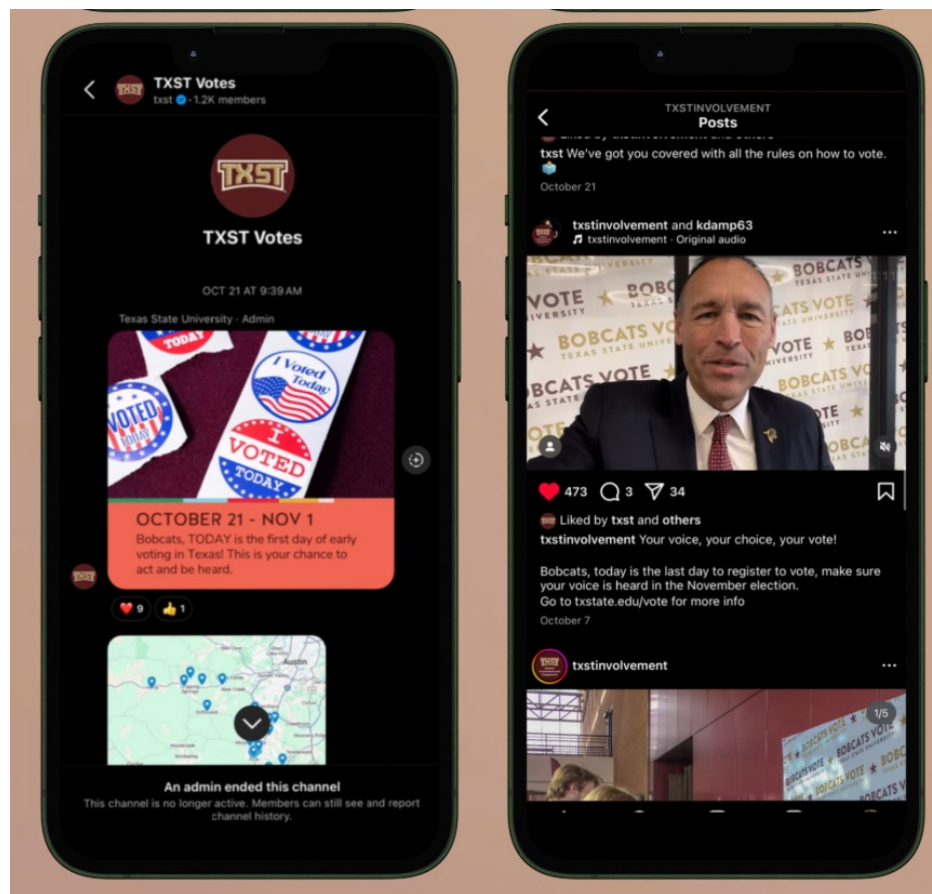
when you enter the LBJ
there's gonna be tons of
signs and posters



she has voted go Arden



Launched Instagram Broadcast Channel (in beta)





“It’s a little too analytical for me”

“I don’t understand”

“What are we supposed to do?”

— anonymous student responses

Takeaways

- If I knew the student well, I could tell whether they'd added their own critical thought or not.
- Students who had previous experience with social media data seemed to better grasp the assignment.
- Just like IRL, some of the students were really effective/empowered by AI, whereas others struggled with the assignment.

!Need to Encourage Critical Thinking!

- Ex: Where is the tension in this conversation that may lead to a creative insight? [refer to tweet examples manually; do not use AI to answer]
- Ex: Why does this topic matter to people? How can we use this in a campaign to engage a specific audience? [refer to analysis results but do not use AI to answer]

Limitations and future work

Across most responses, I couldn't tell if anything was written by the student (or not).

Add a follow-up survey two days after submitting:

Do you remember how many observations were in the dataset?

- ☐ No, not at all
- ☐ Maybe...

How confident are you in your ability to answer the following? (*1 = Not at all confident, 5 = Totally confident*)

- I could describe an individual (e.g., persona or user profile) really well.
 - ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
- I could provide an example of a quote from one of the tweets.
 - ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
- I feel I could create and plan an effective advertising campaign based on my research.
 - ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

Thank you!



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