

Appendix

Altered and Synthetic Images & Corresponding Explanations Generated by Authors



Figure 7: Altered Image#1

Altered Image#1

Contrastive Explanation: In the altered image, Donald Trump is shown kneeling as if pleading, and he is missing a few fingers, indicating the image has been synthesized. The creators of this synthetic image aimed to portray Trump as guilty and responsible for his actions. By depicting him in a pleading posture rather than a normal one, they intended to influence public perception and suggest that Trump is aware of his mistakes.

Teleological Explanation: Donald Trump, a prominent political figure known for his controversial statements and actions, is often targeted in attempts to influence public opinion and undermine his credibility. The altered image of Trump kneeling and pleading, particularly during the ongoing presidential campaign, is one such tactic designed to polarize voter views and sway the outcome of the election.

Control Condition: This image is altered by AI, where Donald Trump is missing some fingers.

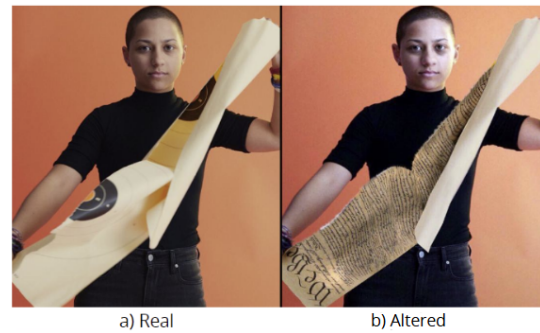


Figure 8: Altered Image#2

Altered Image#2

Contrastive Explanation: The altered image shows Emma González, who was found tearing the US Constitution, which was changed from shooting target paper. The community against gun control altered the image to portray her as opposing the US Constitution and citizens' gun rights. They used the Constitution instead of a regular paper or shooting practice paper to impact people emotionally, suggesting that those against gun violence oppose the Constitution.

Teleological Explanation: The altered image shows Emma González, who was found to tear The U.S. Constitution, which was changed from the shooting target paper. The anti-gun control community altered Emma González's image to counter her strong support against gun violence. She turned her grief into activism, founded "Never Again MSD," and organized the "2018 March for Our Lives" in D.C., where her impactful speech gained media attention, likely prompting the image manipulation.

Control Condition: This image is altered, where the shooting target paper found in the hand of Emma González is changed to the US Constitution.



Figure 9: Altered Image#3

Altered Image#3

Contrastive Explanation: The image has been manipulated to swap the water bottle in Kendall Jenner's hand with a "Black Lives Matter" poster and to add a mask to her face. This alteration was made to reach wider audiences and gain more traction for the movement. By replacing the water bottle with a "Black Lives Matter" poster rather than something else, the image aims to show her solidarity with the movement.

Teleological Explanation: The image was manipulated because Kendall Jenner is a celebrity and American model with a large following, especially among young people; by associating her with the Black Lives Matter movement, the creator of the altered image likely intended to leverage her influence to garner support and raise awareness for the cause. This image could influence many people and turn them into supporters of the movement.

Control Condition: The image is altered, where the bottle from the left arm of American model Kendall Jenner changed to a hand-lettered sign that says black lives matter. Also, a black mask was placed on the face.



a) Real b) Altered

Figure 10: Altered Image#4

Altered Image#4

Contrastive Explanation: The altered image depicts Joe Biden with his hand placed inappropriately on a woman, accompanied by a digitally inserted whiskey bottle in his pocket. This aims to portray him as engaging in inappropriate behavior towards women, potentially reinforcing accusations against him during his campaign. The circulation of this image seeks to sow doubts regarding the validity of his actions and character.

Teleological Explanation: The original picture was edited and circulated during Joe Biden's presidential campaign to portray him as someone who inappropriately touches women. The image was specifically chosen for manipulation due to its potential to influence public opinion during his campaign. Amid accusations of inappropriate touching, the manipulated image portrayed Biden in a compromising light, reinforcing these claims. This was done to impact public perception in the event of the presidential election.

Control Condition: This image is altered. Joe Biden's hands are positioned on the breasts rather than the waist of Amie Parnes, and a bottle of bourbon whiskey was added in the bottom left corner of the image.



Figure 11: Synthetic Image#5

Synthetic Image#5

Contrastive Explanation: The image was synthesized to show a masked individual tampering with a US ballot box to suggest voter fraud and undermine trust in the voting system. This alteration was driven by the intent to create fear and suspicion about the integrity of the electoral process. The image creator depicted a masked individual tampering with a ballot box rather than showing other forms of voter fraud to evoke a strong emotional response. The visual of a masked person suggests concealment and deceit, making the fraudulent act appear more alarming to the public.

Teleological Explanation: Faking such images weakens public confidence in the electoral system. By spreading false visuals of election tampering, the creators aim to create widespread doubt and controversy over election results, destabilizing the democratic process and influencing public perception and behavior. The image was selected for manipulation during a sensitive election period to maximize its impact. This specific scenario plays into existing fears and conspiracy theories about voter fraud, making it a potent tool for spreading misinformation.

Control Condition: The image depicting the US voting system is synthesized by AI. A masked individual is shown tampering with a US ballot box to suggest voter fraud.



Figure 12: Synthetic Image#6

Synthetic Image#6

Contrastive Explanation: The manipulated image shows Trump running away from police officers, which we can identify as synthetic since the officers are looking in a different direction. This portrayal aims to depict Trump as attempting to escape from the police, suggesting he has no respect for law and order. Instead of showing him being quietly escorted or arrested, the image creator chose to show him fleeing, emphasizing his disregard for the system.

Teleological Explanation: The creator of the synthetic image chose to tarnish Donald Trump's public image due to his prominent political position and ongoing presidential campaign. This type of manipulation aims to sway public opinion against Trump, potentially impacting voter sentiment in the upcoming election. By depicting him as attempting to escape from the police, the image polarizes voters' views.

Control Condition: The image is synthesized by AI, where Donald Trump's hair is blurry, but his face is focused perfectly, and one person from the crowd is also blurry.



Figure 13: Altered Image#7

Altered Image#7

Contrastive Explanation: In the altered image, an Antifa logo was added to the jacket of a man who is using an object to beat a police officer. This manipulation is evident because the logo looks imposed. The creator of the altered image added the Antifa logo rather than anything else to portray Antifa protesters as violent and imply that they assault police officers.

Teleological Explanation: This image gained traction following the 2017 Charlottesville car attack during a rally by neo-Nazis and white nationalists opposing the removal of a Confederate statue. It was specifically chosen for manipulation due to its potential to spike controversy and fuel political discourse. By adding the Antifa logo, the creator sought to support the then-president's statement that 'both sides' were to blame for the violence, reinforcing certain political narratives and perspectives.

Control Condition: This image is altered, where an Antifa logo was added to the black jacket of the person assaulting the fallen officer.



Figure 14: Altered Image#8

Altered Image#8

Contrastive Explanation: The image was altered by adding stars forming the shape of a Nazi swastika to the face masks and clothes of the individuals depicted, falsely portraying them as supporters of Nazis. This manipulation aimed to provoke outrage and condemnation against the lawmakers shown. The creators intentionally chose these symbols instead of anything else to exploit the historical atrocities associated with Nazis and evoke adverse solid reactions against the Squad.

Teleological Explanation: "The Squad," a group of Democratic lawmakers frequently targeted by right-wing disinformation, was selected for this image. Star logos resembling swastikas were added to their clothing to invoke negative associations and discredit them. The deliberate alteration of the lawmakers' clothing aimed to falsely portray them as sympathetic to Nazi ideology falsely, aggravating pre-existing right-wing disinformation.

Control Condition: This image is altered; where the clothes and some of the face masks of the lawmakers had been altered by adding stars that form the shape of a Nazi swastika.



Figure 15: Altered Image#9

Altered Image#9

Contrastive Explanation: In this fabricated image, Alaska Governor Sarah Palin's head, originally from a photo of her marching in the Chugiak July 4 Parade, has been superimposed onto a bikini model's body. The alteration is aimed at humiliating and demeaning Palin to cast her in a negative light. Sarah Palin was explicitly targeted due to her prominent role as John McCain's Vice-Presidential candidate.

Teleological Explanation: The image of Sarah Palin was altered because she was chosen to be John McCain's vice-presidential candidate. The selection of this specific image may aim to humiliate her and embarrassingly depict her. Unlike conventional political satire or criticism, this manipulation crosses the boundaries of decency and respect. It was circulated mainly during her campaign as John McCain's vice-presidential candidate.

Control Condition: This image is altered. The head of Alaska Governor Sarah Palin was pasted onto the body of a bikini-wearing model.

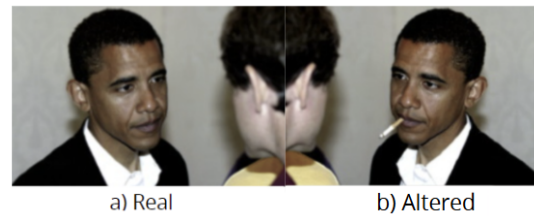


Figure 16: Altered Image#10

Altered Image#10

Contrastive Explanation: The manipulated image depicts Barack Obama with a cigarette in his mouth, contradicting his previous commitment to quitting the habit before his presidential campaign. Barack Obama was chosen to be altered rather than anyone else to create an adverse public reaction towards him amidst his presidential campaign. This altered image is intended to suggest he hasn't kept his promise, which could provoke negative public sentiment.

Teleological Explanation: Barack Obama, who was contesting for the presidency, was shown smoking a cigarette in an attempt to stir adverse public reactions by portraying him as someone who does not keep his promises. This specific image was chosen to portray Obama as failing to fulfill his promises. These tactics aim to undermine public trust in his leadership and promises. Such manipulations are intended to tarnish the reputation of a prominent figure for electoral advantage.

Control Condition: This image is altered, where a cigarette is placed in Barack Obama's mouth.



Figure 17: Synthetic Image#11

Synthetic Image#11

Contrastive Explanation: The image shows Trump being arrested, which can be identified as synthetic due to the police officer holding something resembling a claw and Trump's head appearing superimposed. This manipulation aims to deceive people into believing Trump was arrested and indicted earlier than he was. By portraying Trump's arrest in a dramatic manner rather than a quiet one, the creator seeks to defame him and influence public opinions and political views.

Teleological Explanation: Donald Trump, the 45th US president, has several allegations against him and faces considerable opposition as a politician. His arrest can tarnish his political image and challenge his eligibility to run in the 2024 presidential election. This controversy led to an AI-generated photo depicting him in handcuffs, suggesting a potential flight risk and portraying him as guilty and responsible for his charges.

Control Condition: This image is synthesized by AI, where the police officer's left arm holding Donald Trump looks more like a robotic claw than a human hand, and Donald Trump seems extra bright compared to other police officers.



Figure 18: Synthetic Image#12

Synthetic Image#12

Contrastive Explanation: The image was manipulated to show an explosion near the Pentagon to create panic and uncertainty, exploiting the fear of attacks on significant national landmarks; by depicting an explosion specifically at the Pentagon rather than another location, the creators aimed to evoke a strong emotional response and amplify the perceived threat. The Pentagon was chosen to lend credibility to the image and ensure widespread attention, maximizing the impact and urgency of the fabricated event.

Teleological Explanation: The broader reason for faking this image was to create confusion and instability in the public and financial markets. The Pentagon was specifically chosen due to its prominence as a symbol of American military strength and national security. Given the historical context of terrorist attacks and global security concerns, an incident at the Pentagon would naturally draw significant attention and consideration. This manipulation aimed to exploit these contexts, making the unreal event seem plausible and alarming, thereby, achieving the intended social and economic disruption.

Control Condition: This image was manipulated by AI to show an explosion near the Pentagon.



Figure 19: Altered Image#13

Altered Image#13

Contrastive Explanation: The image was manipulated to show Obama shaking hands with Hassan Rouhani instead of Manmohan Singh to falsely suggest diplomatic ties with Iran, aiming to influence public perception and create controversy around Obama's foreign policy. Rouhani was chosen over another leader to emphasize potential connections with Iran, a country often viewed with suspicion in American politics, thus provoking a stronger adverse reaction than if another, less controversial figure had been used.

Teleological Explanation: The broader aim of faking such images is to manipulate public opinion, sway voters, and damage a political figure's reputation, particularly during election campaigns. Obama was specifically targeted due to his high-profile status and the political sensitivity surrounding Iran. This choice was intended to maximize the impact of the altered image by leveraging existing tensions and suspicions about US-Iran relations.

Control Condition: The image of Barack Obama is altered where former Iranian president Hassan Rouhani replaces former Indian prime minister Manmohan Singh.



Figure 20: Altered Image#14

Altered Image#14

Contrastive Explanation: Actor Robin Williams is replaced with convicted sex offender Jeffrey Epstein in the edited photo, linking actor Jim Varney with Epstein's crimes related to sex trafficking of minors. This fabrication raises speculation about Varney's involvement despite lacking any factual basis. Jeffrey Epstein was explicitly chosen to replace Robin Williams to strengthen the association between Varney and Epstein's crimes, increasing the impact of the false allegations.

Teleological Explanation: The creator of the altered image was a Twitter user who fabricated a connection between unrelated individuals to spread false allegations, intentionally replacing Williams with Epstein to damage Varney's reputation in the public eye. The creator disclosed that they manipulated the image as a joke in response to a politician's statement that "some of our faves are implicated" and not meant to be taken seriously. The image was chosen for manipulation due to the public's recognition of Robin Williams and the sensational nature of Epstein's crimes.

Control Condition: This image is altered, where Robin Williams is replaced with American financier and convicted sex offender Jeffrey Epstein.



Figure 21: Synthetic Image#15

Synthetic Image#15

Contrastive Explanation: The image of Joe Biden lying sick in a hospital bed was synthetically generated to cast doubt on his health and ability to perform his duties. The creators chose to show Biden in a hospital bed rather than a different setting to maximize the impact on public perception. This alteration created a perception of incapacity, undermining public confidence and swaying voter opinions for the 2024 US presidential election.

Teleological Explanation: Faking an image of Joe Biden in a hospital bed is intended to influence the 2024 presidential election by exploiting fears about his health and ability to lead. Joe Biden was chosen explicitly for this synthetic image due to his prominent role as the sitting president and a candidate in the 2024 election. Concerns about his age and health have made him a strategic target, amplifying anxieties about his capability to serve another term.

Control Condition: The image of Joe Biden was synthetically generated by AI, where Joe Biden is shown lying sick in a hospital bed.

Dependent Variable	(I) Types of Explanation	(J) Types of Explanation	Mean Diff. (I-J)	Std. Error	Sig.	Lower Bound	Upper Bound
Context	Crowd	Expert	-1.156*	0.1540	< .001	-1.519	-0.793
	Crowd	LLM	-1.708*	0.1453	< .001	-2.050	-1.365
	Expert	Crowd	1.156*	0.1540	< .001	0.793	1.519
	Expert	LLM	-0.551*	0.1806	0.007	-0.977	-0.126
	LLM	Crowd	1.708*	0.1453	< .001	1.365	2.050
	LLM	Expert	0.551*	0.1806	0.007	0.126	0.977
Implicit Motivation	Crowd	Expert	-1.182*	0.1460	< .001	-1.527	-0.838
	Crowd	LLM	-1.707*	0.1378	< .001	-2.032	-1.382
	Expert	Crowd	1.182*	0.1460	< .001	0.838	1.527
	Expert	LLM	-0.525*	0.1713	0.007	-0.929	-0.121
	LLM	Crowd	1.707*	0.1378	< .001	1.382	2.032
	LLM	Expert	0.525*	0.1713	0.007	0.121	0.929
Clarity	Crowd	Expert	-0.908*	0.1553	< .001	-1.274	-0.542
	Crowd	LLM	-1.301*	0.1466	< .001	-1.647	-0.956
	Expert	Crowd	0.908*	0.1553	< .001	0.542	1.274
	Expert	LLM	-0.394	0.1822	0.080	-0.823	0.036
	LLM	Crowd	1.301*	0.1466	< .001	0.956	1.647
	LLM	Expert	0.394	0.1822	0.080	-0.036	0.823
Language and Structure	Crowd	Expert	-1.091*	0.1463	< .001	-1.436	-0.746
	Crowd	LLM	-1.542*	0.1380	< .001	-1.868	-1.217
	Expert	Crowd	1.091*	0.1463	< .001	0.746	1.436
	Expert	LLM	-0.451*	0.1716	0.025	-0.855	-0.047
	LLM	Crowd	1.542*	0.1380	< .001	1.217	1.868
	LLM	Expert	0.451*	0.1716	0.025	0.047	0.855

Table 4: Tukey's HSD test results comparing mean differences, standard error, significance, and 95% confidence intervals in ratings across explanation types (Crowd, Expert, LLM) and criteria (Context, Motivation, Clarity, Structure). Statistically significant values are marked with *.

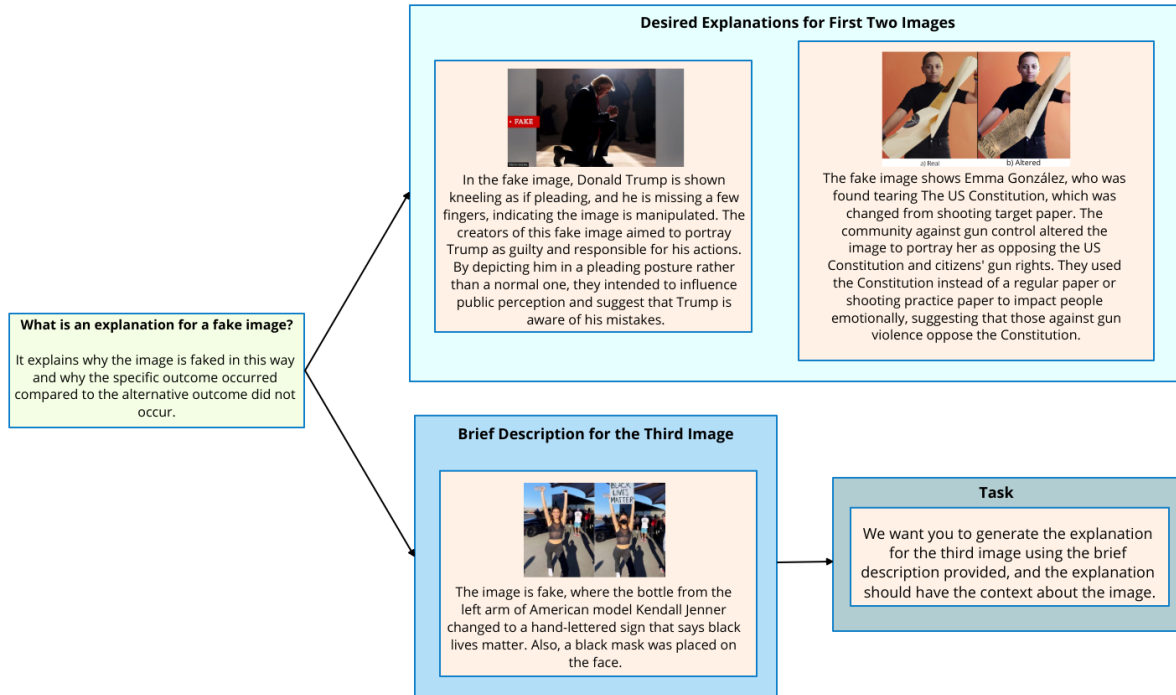


Figure 22: Prompt to create contrastive explanation using LLM