

NLP Based Text Mining and Visualization of Presidential Discourses from Israel and Iran 2023-2025

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Abstract

This study employs computational linguistics and topic modelling techniques (LDA) to explore war and peace narratives in presidential discourses from Iran and Israel between 2023 and 2025, using Python-based NLP workflows. Focusing on speeches delivered by Prime Minister Benjamin Netanyahu and President Masoud Pezeshkian—particularly at the 2024 UN General Assembly—this research applies NLP-based text mining, LDA topic modelling to extract dominant themes and terminologies. Furthermore, LDA topic visualisation, t-SNE distribution of themes, and lexical dispersion plots further clarify the Israel-Iran narrative structures and diplomatic positioning. The analysis provides insight into the distribution of key geopolitical and ideological terms in the discourse of Iranian and Israeli presidents between 2023 and 2025. These findings suggest that Netanyahu's discourse is heavily centred on security, threat perception, and justification of military action. He frames Israel as a peace-seeking nation and Iran as a destabilising force. In contrast, Pezeshkian constructs a counter-narrative by emphasising international sanctions, external aggression, and Iran's pursuit of justice against Western and Israeli hegemony. It shows Iran's sustained efforts to promote a narrative of peace, justice, and resistance while strategically responding to international accusations and geopolitical tensions. This research contributes to the understanding of political discourse construction through computational linguistic analysis. The visualisation techniques not only validated the researcher's thematic labelling but also enhanced the interpretability of LDA outputs by clearly illustrating how Iran's political rhetoric is structured around religious legitimacy, moral framing, geopolitical resistance, and global humanitarian appeals. The findings demonstrate the strategic use of linguistic framing to shape global perceptions, polarise national identities and international roles.

Keywords: NLP, Text Mining, Visualisation, Iran and Israel, Netanyahu, Pezeshkian.

Introduction

Iran and Israel's prolonged geopolitical rivalry continues to define their international relations, driven by their contrasting political ideologies, religious differences and regional aspirations. Since the Iranian Revolution (1979), their relationship has shaped their persistent hostility, evident in their political rhetoric, military actions, and alliances with adversarial regional blocs (Qaderi et al., 2023). Israel frequently accuses Iran of supporting its opposing groups, Hamas and Hezbollah, and seeking regional dominance. This antagonistic relationship extends beyond the Middle East, influencing global alliances and policies. Iran aligns with anti-Western and anti-Israel nations, whereas Israel retains loose bonds with Western Powers, especially the United States. Despite their

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ongoing hostilities, both states frame their foreign policies, focusing on advocating for peace, justice, and regional stability. This strategic self-representation positions them as peace-loving nations, justifying their actions on the global stage.

This study analyses official presidential discourses from 2023 to 2025 to examine how both countries craft their narratives in global diplomatic settings. The dataset comprises key speeches and interviews by Israeli Prime Minister, such as his addresses at the UNGA (September 2023–2024), the JNS Policy Summit (April 2025), a statement (June 24, 2025), and interviews with Time and CSB. This study shows that Israeli presidential discourse frames Israel as a peace-seeking country, defending itself against Iranian aggression. In comparison, this study also draws on Iranian presidential key speeches, interviews, and statements from 2023 to 2025. The dataset comprises speeches by President Pezeshkian to the UNGA (September 24, 2024), President Raisi (2023), and President Pezeshkian's statements (June 2025), among others. These sources advocate themes of Victimhood, justice, foreign aggression and adverse effects of sanctions, particularly from Israel and its allies. They frame Iran's global positioning as one of resistance against Western domination.

Literature Review

A growing body of research has examined discursive strategies employed by Iranian presidents. Rahro et al. (2024) analyse the televised presidential debates between Iranian candidates Ebrahim Raisi and Abdolnaser Hemmati using Van Dijk's Critical Discourse Analysis. The study finds that Raisi uses more positive language overall, while Hemmati relies on negative irony significantly more, more-approximately four times as often. Shakoury and Makarova (2021) examine the official speeches delivered by Iranian presidents Hassan Rouhani and Mahmoud Ahmadinejad through the lens of Critical Discourse Studies (CDS). They focus on discourse features—specifically, 25 discursive strategies using UN General Assembly addresses as the primary data. They tried to explore whether variations in these discursive patterns reflect broader differences in the presidents' political ideologies, worldviews, or personal backgrounds. They find that Rouhani emphasised a more positive self-image, whereas Ahmadinejad leaned more heavily on constructing a negative image of the "other." Allami & Barzegar (2020) employed the Critical Discourse Analysis framework to compare the inaugural speeches of Presidents Rouhani and Ahmadinejad and found notable differences in their lexical choices and self-presentation as political figures. Shakoury (2018) analyses eight UN General Assembly speeches by Iranian Presidents Hassan Rouhani and Mahmoud Ahmadinejad using van Dijk's framework for political discourse. Shakoury notices that Rouhani more frequently employs strategies such as consensus, illustration, hyperbole, and polarisation, while Ahmadinejad tends to rely on lexicalisation and vagueness. Sardabi et al. (2014) find that President Rouhani has employed a range of discursive strategies in his political speeches, notably emphasising positive self-representation and portraying his adversaries in a negative light.

Some studies examine the rhetorical strategies employed by Iranian and US presidents to investigate how political figures shape their public image and influence their audience. Rezaei and Nourali (2016) compare speeches of Iranian President Rouhani and US President Obama. They find that both leaders employ similar literary devices, such as similes, metaphors, repetition, allusions, and wordplay. However, Rouhani applies them more frequently and favours alliteration, while Obama relies heavily on metaphor. Azizullah and Fatemeh (2017) employ Fairclough's critical discourse analysis to explore the rhetorical and discursive practices of Rouhani's presidential campaigns. They find several discursive tools used by politicians to influence the

audience, including repetition, parallelism, alliteration, and metaphors. Likewise, Jalilifar and Alavi-Nia (2012) examine the discursive strategies employed by Iranian and US presidential candidates, specifically Ahmadinejad and Obama. They observe the use of hedges and boosters by both of them. Similarly, Ghazani (2016) applies Critical Discourse Analysis to analyse President Bush and Obama's selected speeches. Ghazani observes that both use pronouns and agencies to construct a positive image of themselves and a negative image of others; however, President Obama uses more inclusive pronouns. Kazemi (2021) examines how political language serves as a persuasive tool, concentrating on the rhetorical strategies employed by the presidents of Iran and the United States. Drawing on Beard's (2000) framework, the study compares how both leaders employ language to gain power and public consent. The analysis reveals that both presidents employ standard rhetorical devices, including contrastive pairs and the repetition of pronouns and verb voices. However, their preferences differ: Rouhani frequently manipulates pronouns to align with his audience, while Trump relies more heavily on repetition. Bibi et al. (2025) explore how US President Donald Trump uses language as a strategic tool to influence public opinion and justify military actions during the 2025 US–Iran conflict. Drawing on Critical Discourse Analysis and rhetorical analysis, the study examines Trump's speeches, press conferences, and social media posts from Late 2024 to mid-2025. The findings reveal that Trump frames Iran as a hostile and irrational threat, while portraying the United States as morally justified and defensive. Ramazani (2024) analyses the US presidential speeches of Donald Trump and Joe Biden on the Iranian Nuclear program. Ramazani notices a higher degree of secularisation of Iranian Nuclear program in Trump's speech and a higher degree of desecularization of the same issue in Biden's discourse. Several studies focus on the US and the Iranian presidential campaign speeches. Jalilifar and Savaedi (2012) examine the strategies used by presidential candidates during the American 2008 and Iranian 2009 elections. They employ both qualitative and quantitative methods to analyse the differences between the winners and losers of both countries. They find differences in the kind and nature of attitudinal markers that influenced their political, social, economic, and international statutes at the time of national polls. Khajavi and Rasti (2020) analyse only the US election speeches separately. They employ critical discourse analysis to expose the common strategies used by politicians in their speeches, such as creating a positive self-image and a negative image of others, persuasive legitimisation, and delegitimisation, to win voters' attention. The findings reveal that Obama focuses on the myth of the "American Dream".

In contrast, Romney focuses on the negative representation of others. In another study, Mirzaeian (2020) also investigates interpersonal meta-discourse markers used in Obama and Trump's speeches on the Iranian Nuclear program. The results indicate the significant differences in the preferences and use of interpersonal meta-discourse markers. Mirzaeian observes the use of interpersonal meta-discourse at the micro level. Furthermore, Mirzaeian finds a substantial association between interpersonal and contextual differences.

Few studies focus on Netanyahu's 2024 United Nations speech (Alsemeiri et al., 2024; AlAsttal, 2024; Soukni, 2025). They employ qualitative critical discourse analysis to investigate Netanyahu's discourse. They find that Netanyahu frames his discourse in a way that legitimates Israel's actions in Gaza and portrays it as self-defence. Luca (2024) explores Netanyahu's speech delivered at the 2023 UNGA and finds similar patterns.

The present study employs computational linguistic techniques, including Natural Language Processing (NLP), such as LDA topic modelling, t-SNE clustering, and lexical dispersion plots, to analyse the dominant themes and narrative structures in Iranian and Israeli presidential discourses from 2023 to 2025. Unlike traditional studies that analyse presidential speeches separately, this

study offers a comparative, data-driven analysis of two regional rivals: Iran and Israel. It identifies recurring themes, visually maps semantic structures, and gives insights into the linguistic constructions of war, peace, legitimacy and threat.

Methodology

This study employs a computational approach to analyse Iranian and Israeli presidential discourses from 2023 to 2025. The dataset comprises official transcripts, speeches, international interviews, press statements, and significant policy summits, including their UNGA Speeches (United Nations General Assembly, 2023-2024). All texts were sourced from verified public sources, including government websites, UN archives, and international news outlets. These transcripts were converted into text files for analysis and review.

The analytical framework integrates both corpus-based methods and computational linguistics techniques, utilising Python. LDA topic modelling was used to identify key themes. These themes reveal how leaders frame certain concepts, such as war, peace, justice, terrorism, and instability, to seek global alliances.

Subsequently, Python LDA (Latent Dirichlet Allocation) topic modelling was applied to uncover the underlying thematic structures within the corpus. The LDA model was used to identify dominant topics based on patterns of word co-occurrences across the documents. To further visualise the distribution of issues and observe clustering patterns, t-SNE (t-distributed Stochastic Neighbour Embedding) was used, allowing themes to be mapped in a two-dimensional space. Additionally, LDA interactive visualisations were generated to highlight the relationships between topics and the most significant terms.

This study examines discourse strategies, such as framing and persuasive appeals, through text mining and the exploration of linguistic patterns. It focuses on how language is strategically used to construct narratives to justify actions and influence perceptions. A mixed-methods approach was employed to gain a deeper understanding of the ideological divide and narrative construction between Israel and Iran. It utilises traditional corpus tools in conjunction with advanced topic modelling and visualisation techniques.

Analysis

Israeli Presidential Discourse 2023-2025.

Table 1 presents five key latent topics extracted from the Israeli Presidential Discourse using Latent Dirichlet Allocation (LDA). It visualises the issues extracted through LDA.

Table 1: LDA topic keywords and themes extracted from the Israeli Presidential Discourse 2023-2025

Topic key Words	Themes
0) 0.027hamas + 0.020victory + 0.018israel + 0.017total + 0.015gaza 0.013iran + 0.012think + 0.011terror + 0.011goal + 0.010well	National Security, Victory Narrative, and Iran-Hamas Axis
1) 0.024israel + 0.021say + 0.019away + 0.016state + 0.012way + 0.012give 0.012want + 0.010people + 0.010well + 0.010also	Strategic Positioning and Territorial Rhetoric
2) 0.017israel + 0.016going + 0.013people + 0.013plan + 0.011margaret 0.011happen + 0.009thing + 0.009peace + 0.009deal + 0.009interests	Peace Talks, Strategic Planning, and International Alliances
3) 0.022gaza + 0.021hamas + 0.020civilians + 0.013say + 0.013true 0.012battalions + 0.010fight + 0.010turned + 0.010hope + 0.009rafah	Civilian Warfare Justification and Combat Discourse
4) 0.024war + 0.016israel + 0.014would + 0.013america + 0.013time 0.013actually + 0.010win + 0.010peace + 0.010minister + 0.010prime	U.S.–Israel Alliance, War Justification, and Leadership

The first topic centers on the theme of national security, victory narrative, and the Iran-Hamas axis. Dominant keywords such as hamas (0.027), victory (0.020), israel (0.018), and gaza (0.015) suggest a discourse focused on framing Israel's military operations as a justified struggle toward a decisive outcome. The co-occurrence of iran (0.013) and terror (0.011) reflects Netanyahu's recurring rhetoric portraying Hamas as an Iranian proxy and a direct threat to Israeli security. Terms like goal and total reinforce the narrative of achieving complete military success. This topic represents Israel's strategic positioning of itself as a victim of terror, seeking global sympathy and validation for its security response.

The second topic revolves around strategic positioning and territorial rhetoric. Key terms such as state (0.016), away (0.019), give (0.012), want (0.012), and people (0.010) suggest a discourse concerned with land, sovereignty, and negotiations. This may reflect statements about the two-state solution, land concessions, or the rejection of demands seen as weakening Israeli control. The repetitive use of say, also, and well indicates a defensive or explanatory tone, possibly in response to international criticism.

The third topic focuses on peace talks, strategic planning, and international alliances. Keywords such as peace (0.009), deal (0.009), plan (0.013), and interests (0.009) indicate a narrative that discusses Israel's willingness to engage in diplomatic dialogue. However, the inclusion of more ambiguous words like thing, happen, and going—along with the unusual keyword margaret (likely referencing Margaret Thatcher or a similar figure quoted or cited)—suggests a blend of hypothetical or rhetorical statements. This topic illustrates how Netanyahu discusses peace-building, geopolitical bargaining, and national interests in global forums.

The fourth topic addresses civilian warfare justification and combat discourse. With civilians (0.020), Hamas (0.021), Gaza (0.022), and battalions (0.012) among the most salient terms, this topic reveals a justification narrative for Israeli military actions in populated zones. The mention

of Rafah, a frequently referenced city in Gaza, and words like hope, true, and turned, suggest rhetorical strategies to portray Israel as fighting a necessary war while still caring about civilian casualties. This topic aligns with the defensive humanitarian framing that aims to balance military aggression with moral concern.

The fifth topic reflects the theme of U.S.–Israel alliance, war justification, and leadership. Words like war (0.024), America (0.013), win (0.010), minister, and prime point directly to Netanyahu's leadership persona and his appeal to U.S. support. The inclusion of peace in this cluster reveals the tension between combat rhetoric and peace positioning. The overall narrative here emphasizes Israel's readiness to win, confidence in U.S. support, and strategic leadership amid global scrutiny.

Figure 1: LDA topic visualization of Israeli Presidential Discourse 2023-2024

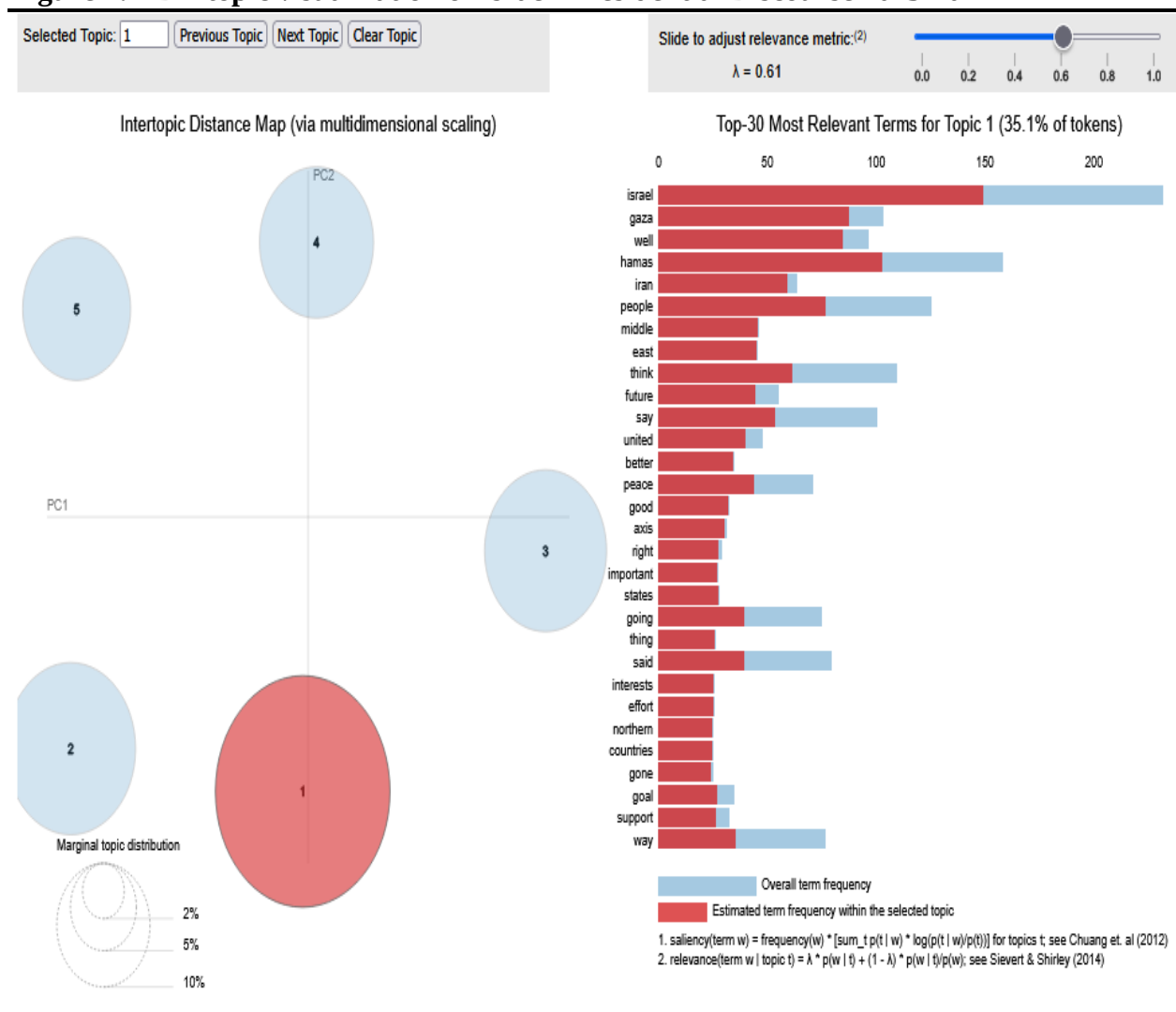
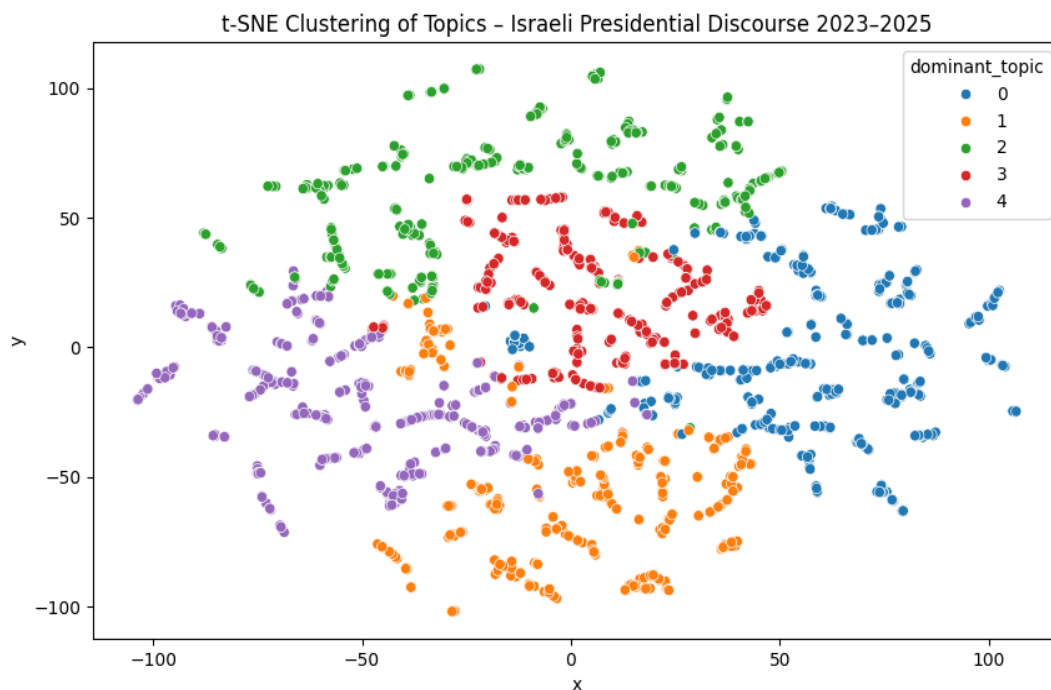


Figure presents the LDA topic modeling visualization of the Israeli presidential corpus particularly under Netanyahu during 2023-2024. The interactive bubble chart offers insights into the thematic structure of Israeli discourse. The left panel, showing the inter topic distance map, displays five distinct topics represented by circles, where the size of each circle reflects the topic's prevalence in the corpus and the distance between them indicates semantic uniqueness. Topic 1 in red is the

most dominant theme, making up 35.1 % of the total tokens in the corpus. It reflects how frequently these themes appear across speeches especially with reference to Hamas, Gaza and Iran. It reveals that topic 1 focuses on a narrative that is built around Israel's security response to Hamas and Iran, highlighting the situation in Gaza and looking forward to peace, future and support. Terms like people and middle-east reflect regional focus and geopolitical context. Words like good, important, effort and support are used to position Israel positively. It suggests that Israel is not only portraying itself defensively, but also as a moral actor striving for peace. Topic 1 is significantly separate from others, which means it contains distinct thematic focus. Topics 2, 3 and 5 appear closely clustered, suggesting thematic overlap—potentially around shared ideas like security, diplomacy and military. While Topic 4 is positioned farther apart, indicating more distinct or divergent subthemes. The right panel lists the top 30 most salient terms, with $\lambda = 1$ highlighting terms ranked by overall frequency. The λ (lambda) value is set to 0.61, which strikes a balance general frequency and topic exclusivity. The red bars show the overall frequency of each term in the corpus, while the blue bars show the estimated frequency within topic 1. These findings suggest that Netanyahu's discourse is heavily centered on security, threat perception and justification of military action.

Figure 2: A t-SNE distribution of themes in Israeli Presidential Discourse 2023-2024 extracted through LDA



In the t-SNE plot, blue points are densely packed, showing high frequency and thematic consistency. This reflects Netanyahu's dominant framing of Israel as combating terrorism (Hamas, Iran), emphasizing military success and national defense. Orange points are spread widely in the bottom-right region of the t-SNE map, indicating this theme occurs in varied contexts. It likely includes statements about statehood, negotiations, and boundary issues, consistent with this more flexible, less emotionally charged rhetoric. Green points dominate the upper-middle region. They

are semi-scattered, suggesting moderate thematic distinctness. The keywords imply this topic covers forward-looking statements, peace overtures, and geopolitical strategies — all hallmarks of diplomacy-focused discourse. Red points cluster near the center, overlapping with Topic 0 (blue). This overlap makes sense: civilian impact and military operations are interlinked in Netanyahu's framing, especially around Gaza. The proximity confirms semantic blending between military actions and humanitarian framing. Purple points dominate the bottom-left quadrant, forming a relatively distinct cluster. This indicates that Netanyahu's references to the U.S., his leadership role, and wartime positioning form a unique discourse style, separate from other topics like Gaza or diplomacy.

Figure 3: Lexical Dispersion plot Netanyahu's Discourse 2023-2025

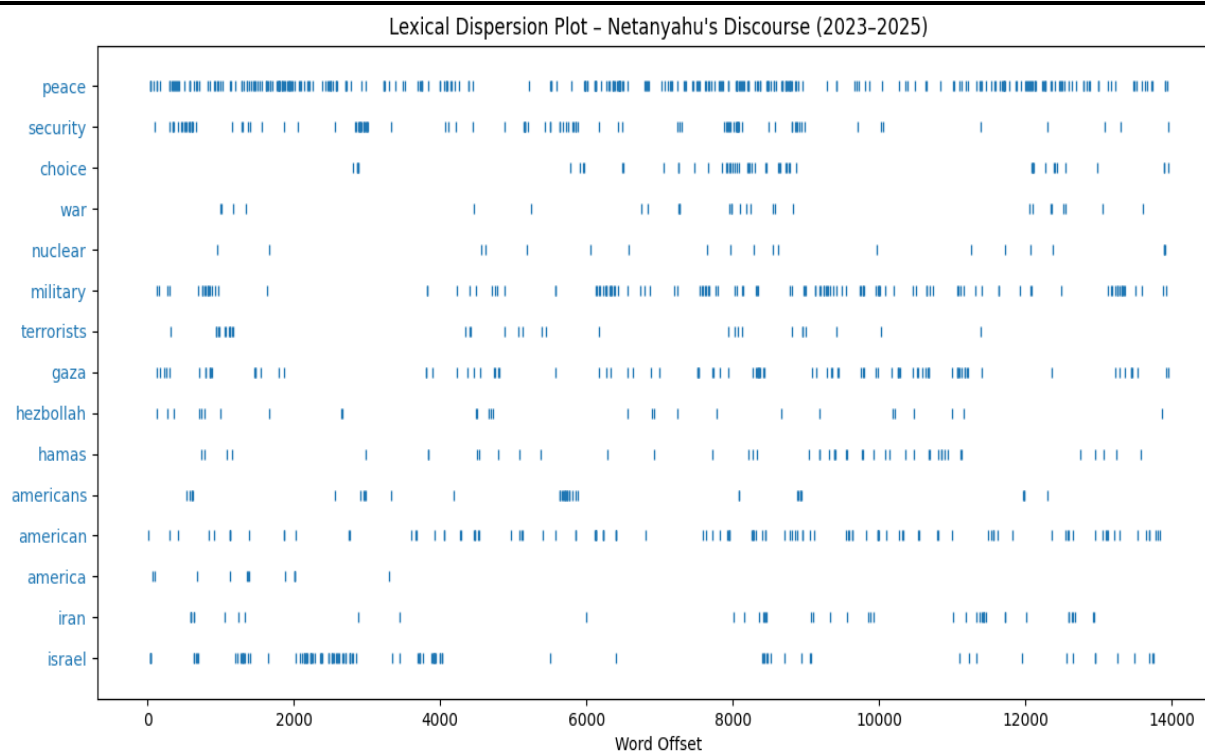


Figure 3 presents a lexical dispersion plot of Netanyahu's discourse from 2023 to 2025, highlighting the distribution of key terms throughout his public addresses. The plot reveals that words such as "peace" and "security" are consistently used across the timeline, reflecting their centrality in shaping Israel's diplomatic and defense narratives. Terms like "Israel", "Iran", and "terrorists" occur frequently, with "Israel" appearing in a sustained manner, reinforcing themes of national identity and existential threat. Mentions of "Hamas," "Hezbollah," and "Gaza" tend to cluster in specific segments, indicating targeted discussions of militant threats and conflict zones. Similarly, words like "war," "military" and "nuclear" appear in strategic bursts, often in reference to defense policies and Iran's nuclear ambitions. The recurring references to "America," "American," and "Americans" suggest the significance of U.S.-Israel relations and shared geopolitical interests. Overall, the dispersion pattern demonstrates Netanyahu's deliberate lexical choices to construct a narrative centered on security, deterrence, and alliance-building, particularly in the context of regional threats and international diplomacy.

Iranian Presidential Discourse 2023-2025**Table 2: LDA topic keywords and themes extracted from the Iranian Presidential Discourse 2023-2025**

Topic key Words	Themes
0) 0.012united + 0.011states + 0.010president + 0.009iran + 0.008god 0.008would + 0.007country + 0.007like + 0.007peace + 0.007justice	Religious diplomacy and Peace Advocacy
1) 0.012iran + 0.012region + 0.009nuclear + 0.008always + 0.008want + 0.007us + 0.007world + 0.006order + 0.006security + 0.006wars	Nuclear sovereignty and regional stability
2) 0.010rights + 0.008netanyahu + 0.008us + 0.008iran + 0.008children 0.008said + 0.007israel + 0.007global + 0.006talks + 0.006regime	Human rights violations by Israel and US
3) 0.017war + 0.010rights + 0.009world + 0.009human + 0.009people 0.009justice + 0.008nation + 0.008nations + 0.008iranian + 0.007region	Global Humanitarianism and Iran's moral positioning
4) 0.026iran + 0.017world + 0.014people + 0.011islamic + 0.009republic + 0.008iranian + 0.007one + 0.006country + 0.006states + 0.006sanctions	National Identity, sanctions and resistance

The first topic centers on the theme of religious diplomacy and peace advocacy. The dominant keywords such as united (0.012), states (0.011), president (0.010), god (0.008), and peace (0.007) reflect a discourse that blends religious and diplomatic appeals. The use of spiritual language like god and justice (0.007) suggests moral framing, while references to United States and president highlight geopolitical positioning. This topic indicates that Iranian presidential discourse seeks to portray Iran as a peace-oriented and morally guided nation, promoting unity and global justice amidst international tensions.

The second topic revolves around the concept of nuclear sovereignty and regional stability. The key terms Iran (0.012), region (0.012), nuclear (0.009), order (0.006), and security (0.006) underscore a narrative defending Iran's right to nuclear development while emphasizing its regional role. The inclusion of us (0.007) and world (0.007) implies international scrutiny and involvement, but Iran positions itself as a stabilizing force in a volatile environment. This topic frames Iran's nuclear discourse as one of sovereignty, responsibility, and resistance to external domination.

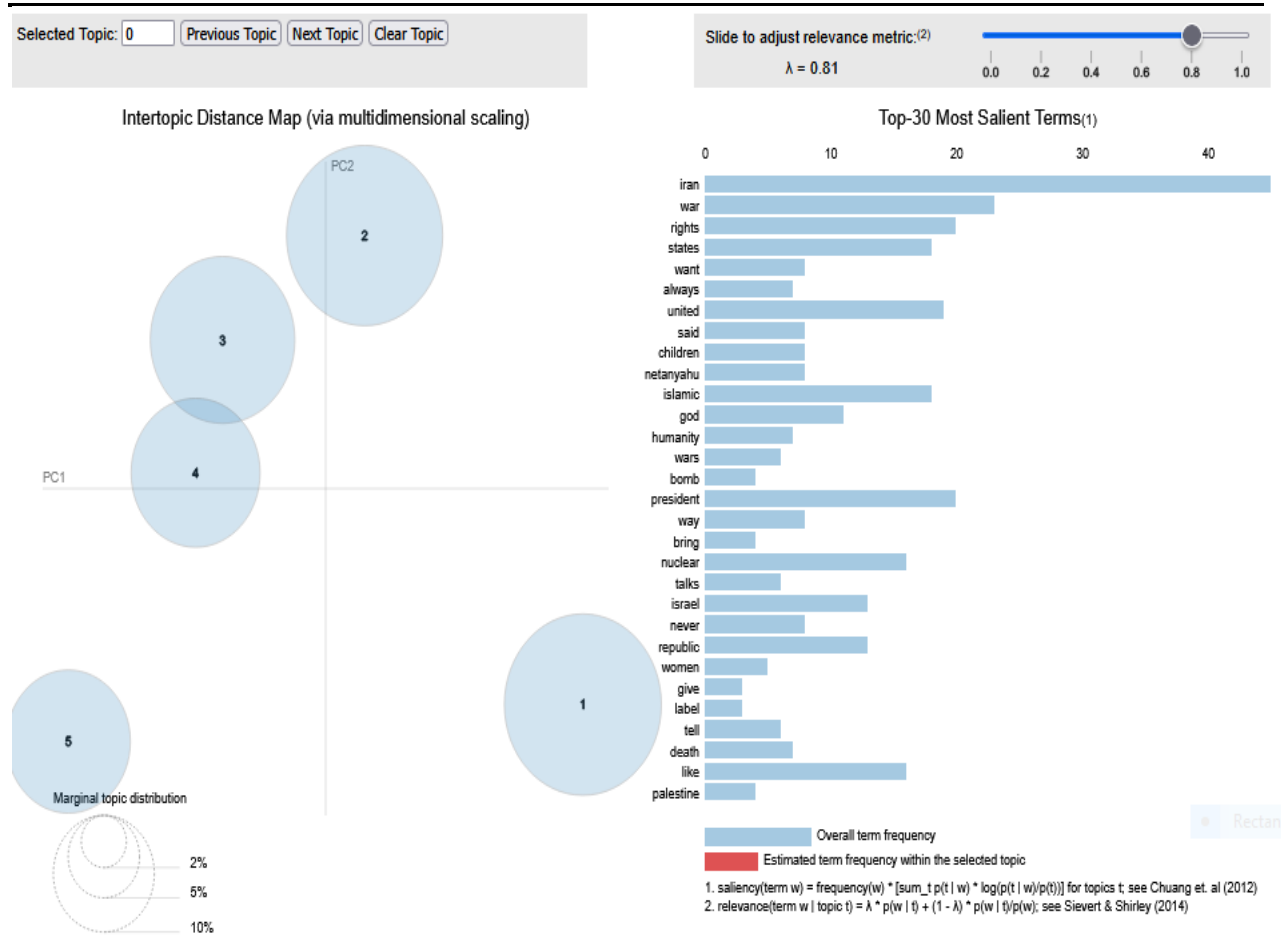
The third topic highlights human rights violations by Israel and the US. With keywords such as rights (0.010), Netanyahu (0.008), children (0.008), us (0.008), and Israel (0.007), the topic strongly focuses on humanitarian concerns. The repeated use of children and rights suggests emotional appeals, while regime (0.006) and talks (0.006) point to political confrontation. This discourse aims to counter Western criticism by accusing Israel and its allies of human rights abuses, particularly in Gaza and other conflict zones, thus legitimizing Iran's opposition to these actors.

The fourth topic reflects the theme of global humanitarianism and Iran's moral positioning. Prominent words like war (0.017), human (0.009), justice (0.009), and people (0.009) reveal Iran's

strategic use of universal moral values. The inclusion of nation, nations, and Iranian suggests Iran's attempt to align itself with broader global communities suffering from war and injustice. This narrative elevates Iran's image as a voice for the oppressed and a nation advocating for human dignity on international platforms.

The fifth topic centers on national identity, sanctions, and resistance. The dominant keyword Iran (0.026) appears alongside Islamic (0.011), republic (0.009), Iranian (0.008), and sanctions (0.006), emphasizing the state's identity and its endurance under external economic pressure. References to world, people, and states further contextualize Iran's stance as a sovereign actor facing unjust treatment from global powers. This topic reveals how Iran constructs a resilient and unified national image in the face of Western-imposed sanctions, reinforcing a narrative of resistance and ideological steadfastness.

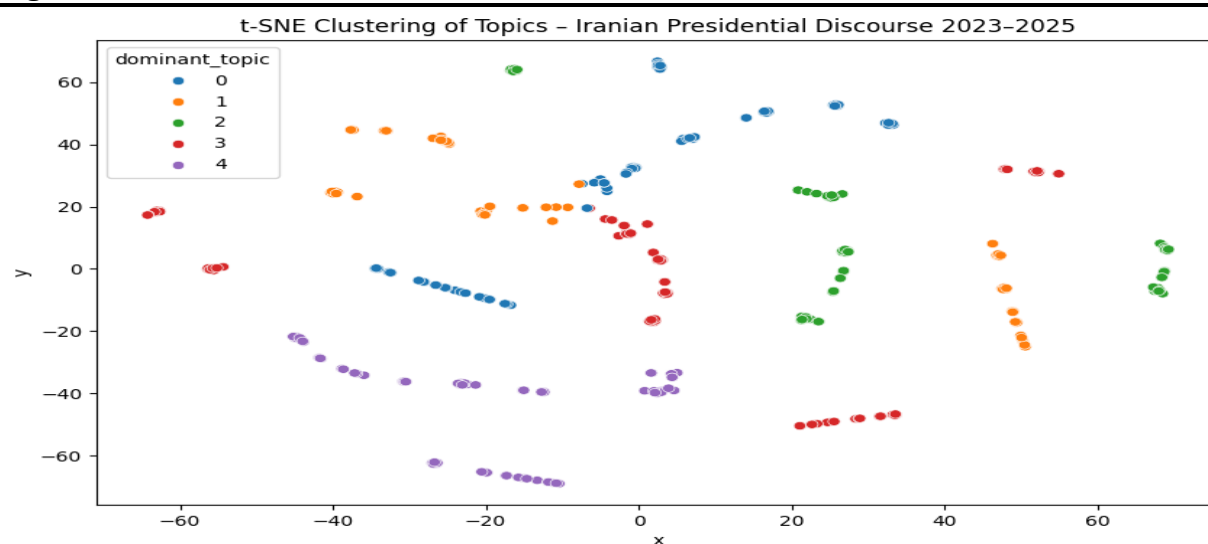
Figure 4: LDA topic visualization of Iranian Presidential Discourse 2023-2024



The LDA visualization provides an interactive representation of the topics extracted from Iranian presidential discourse (2023–2025). On the left panel, the inter topic distance map displays five topics—each represented by a circle whose size reflects the topic's prevalence in the corpus. Overlapping of these circles shows the thematic overlap and arrangement reveals semantic relationship among topics. Topic 3 and 4 overlap depicts common themes and shared vocabulary. For instance, the human rights violations by Israel and the US in topic 3 are closely linked to the

topic 4 theme global humanitarianism and Iran's moral positioning. The distance between circles indicate the difference, how much the content is different from each other. While the distant circles topic 1, 2, and 5 indicate more distinct content. For instance the theme of religious diplomacy and peace advocacy in topic 1 are different from themes of topic 2 nuclear sovereignty and regional stability and likewise different from themes of topic 5 national identity, sanctions, and resistance. The right panel displays the relevant key words for each selected topic. The red bar shows the frequency of each term in the corpus and topic exclusivity. Blue bar shows term's relevance within the specific topic. This visualization not only confirms the themes but also enhances their empirical grounding.

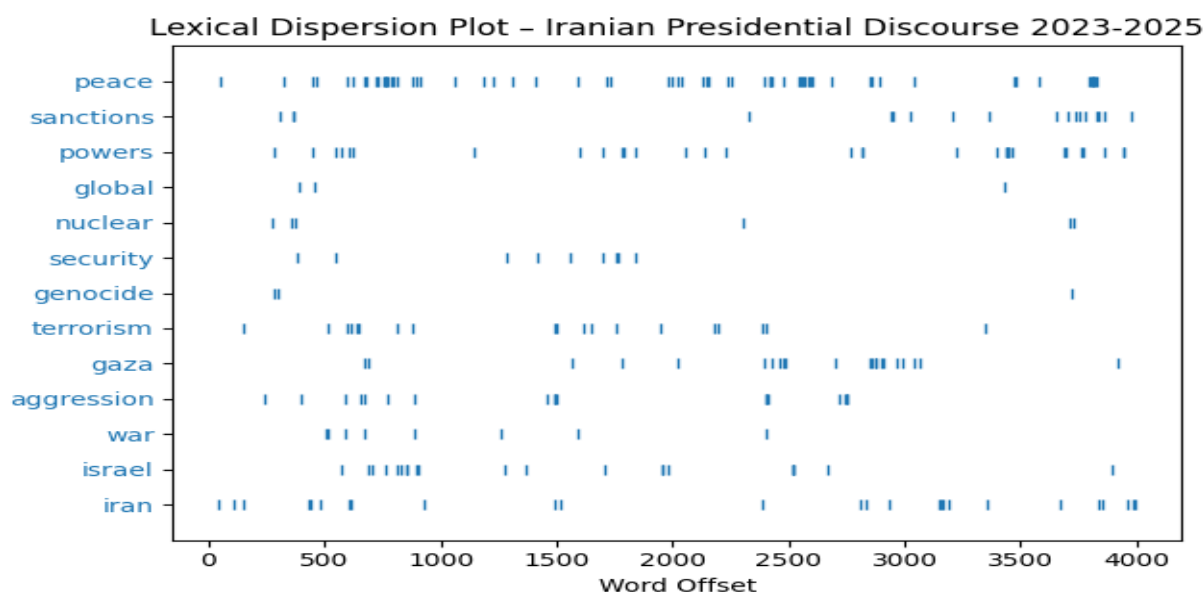
Figure 5: A t-SNE distribution of themes in Iranian Presidential Discourse 2023-2025



The t-SNE plot displays Iranian presidential speech segments extracted through LDA topic modeling. The blue dots show consistency and distinctiveness. It shows how Iranian leaders use religious discourse to maintain their peace seeking image. These expressions project Iran's moral legitimacy by invoking God, peace, and justice. The orange dots are semi clustered, but broadly distributed. It shows that this theme is embedded in various parts of discourse. It shows that themes like Iran's nuclear policy, resistance to Western powers and regional role appears throughout the discourse in different contexts. Green dots overlap with each other, showing the interconnected nature of this theme i.e. human rights violation by Israel and the US. Red dots are moderately scattered. It focuses on human right concerns and suggests emotional appeals. It emphasizes Iran's attempt to project itself as a voice for justice, connecting its national struggle with broader global humanitarian values. Purple points are distinct and tightly grouped, suggesting a clear and repeated pattern of emphasizing Iran's Islamic identity, resilience under sanctions, and unity. This reflects nationalistic discourse focusing on sovereignty, victimhood, and resistance against Western pressure. The t-SNE plot validates the distinctiveness of each LDA theme while also illustrating where themes overlap. Topic 0 (peace diplomacy) and Topic 4 (identity/resistance) are clearly distinguishable, showing specialized rhetorical strategies. Topics 1, 2, and 3 show some semantic overlap, reflecting the interwoven nature of nuclear debates, human rights, and moral appeals in Iranian foreign policy discourse. This visualization confirms that Iranian presidential rhetoric is

structured around strategic, religious, and humanitarian appeals, often used interchangeably or in reinforcement of one another.

Figure 6: Lexical Dispersion of Key Conflict and Diplomacy Terms in Iranian Presidential Discourse



The lexical dispersion plot visualises the distribution of selected key terms throughout the entire corpus of Iranian presidential speeches (from Presidents Ebrahim Raisi and Masoud Pezeshkian between 2023 and 2025). The x-axis represents the word offset (i.e., position of the term in the speech corpus), and the y-axis lists the target keywords. Each vertical bar indicates the occurrence of a word at that point in the text.

Terms like "Iran", "Israel", and "War" appear frequently, but with clusters at specific points, suggesting focused sections where conflict, national identity, and enemy positioning are emphasised. "Israel" and "war" are often co-occurring, highlighting critical commentary on Israeli actions, especially in Gaza. Expressions like "Terrorism", "Genocide", and "Aggression" occur less frequently but are positioned strategically within the discourse, typically when responding to or refuting Western or Israeli narratives. Their usage likely reflects counter-discursive framing, especially defending Iran's position in the global terrorism debate. The reference to "Gaza" appears consistently, especially in the mid-to-late corpus. It shows Iran's supportive positioning for Palestine, and condemnation of Israeli operations in Gaza. "Nuclear" and "Security" spread moderately, but not dominantly. This aligns with Iran's measured defence of its nuclear policy as peaceful. These terms likely surface in contextual justifications tied to national sovereignty and global order. Terms such as "Sanctions" and "Powers" appear throughout but cluster more toward the latter half of the corpus. These relate to Iran's criticism of Western hegemony and the impact of economic sanctions, especially in diplomatic appeals and UN speeches. The term "Peace" is the most frequent and widely dispersed throughout the corpus. It indicates that peace rhetoric is a consistent theme in Iranian presidential discourse, reinforcing Iran's moral stance and diplomatic framing.

Findings

A comparative analysis of Israeli and Iranian presidential discourses from 2023 to 2025 using computational linguistic methods highlighted persistent discourse patterns in both countries. Israeli Prime Minister Netanyahu emphasises security narratives and military justifications. The topic modelling results reveal that Netanyahu consistently frames Israel as a peace-seeking nation facing threats and terror from Hamas and Iran. He emphasises strongly threat perception and war narratives projecting Israel's military actions on Gaza as national security and regional defence. Netanyahu's discourse frequently relies on terms such as peace, security, and terrorists to frame Israel as a moral actor engaged in self-defence, revealing a deliberate attempt to seek US alliance. In contrast, the LDA, T-SNE visualisations, and lexical dispersion plot provide insight into how key geopolitical and ideological terms are distributed throughout Iranian presidential discourse between 2023 and 2025. Notably, the term "peace" appears most frequently and is widely dispersed across the corpus, reflecting the Iranian leadership's persistent framing of its foreign policy in moral and diplomatic terms. In contrast, terms such as "war," "Israel," and "Iran" are clustered more densely at specific points, indicating focused rhetorical sections where themes of national identity, external threat, and enemy positioning are emphasised. The presence of "sanctions" and "powers" primarily in the latter half of the corpus suggests their use in contexts involving critique of Western dominance and the global power structure. Terms like "terrorism," "genocide," and "aggression" appear in strategic bursts, typically aligned with efforts to challenge dominant Western narratives and defend Iran's international image. The term "nuclear" occurs moderately, often alongside "security," supporting Iran's discourse of nuclear sovereignty and peaceful intent. References to "Gaza" are consistent throughout the corpus, highlighting Iran's alignment with the Palestinian cause and condemnation of Israeli military actions. Overall, the findings confirm Iran's sustained efforts to promote a narrative of peace, justice, and resistance while strategically responding to international accusations and geopolitical tensions. It shows both leaders use strategic lexical framing to shape their national and global identities.

Conclusion

This study employs NLP-driven computational linguistic techniques, including LDA topic modelling, t-SNE clustering, and visualisations, to uncover thematic structures in Israeli and Iranian presidential discourse from 2023 to 2025. It demonstrates the efficiency of computational linguistic techniques in unmasking the hidden geopolitical narratives. The findings reveal that both leaders employ discourse to justify their policies, mobilise support, and shape global perception. Netanyahu's narrative constructs a defensive image of Israel facing an existential threat and building an alliance, particularly with the US. These discourses construct a self-image of moral legitimacy through repeated lexical framing. In contrast, Iranian Presidential discourses challenge the Western portrayal of Iran as a threat by projecting a narrative of resistance seeking peace and justice despite being subject to international sanctions.

Ultimately, this study contributes to the field of computational analysis by providing a data-driven comparative analysis of political discourse. It shows how NLP tools can uncover diplomatic narrative structures, especially in the context of international conflicts and regional politics.

The visualisation techniques (LDA topic modelling visualisation, topic clustering, and Lexical dispersion plots) confirm these thematic findings by uncovering deeper layers of political narratives across different contexts. It indicates how language is used to construct reality, influence global perception, and project a national image on the world stage.

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