WarLang: AI-assisted linguistic tool for discourse analysis of war-related language

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Abstract: *This paper presents a study on the potential of large language models for the critical analysis of war-related discourse in media texts. It introduces the concept and design of the WarLang chatbot – an intelligent analytical tool based on generative artificial intelligence that functions as a linguistic discourse analyst. Through a case study involving a speech by Winston Churchill, the paper demonstrates WarLang's ability to uncover ideological, metaphorical, and rhetorical strategies embedded in war discourse. An expert evaluation of the generated results is conducted, confirming the analytical precision of the chatbot. Finally, the educational potential of WarLang is outlined as a tool for teaching discourse analysis, critical reading, and media literacy in the humanities and social sciences.*

1. Introduction

In recent years, military vocabulary has been used with increasing frequency and intensity in the public sphere. The language of war permeates the media in various contexts, including the description of social, political, and even economic processes. Subtly yet persistently, militaristic discourse influences public opinion and collective attitudes, establishing a conflict-oriented approach within the sphere of communication. Here, the concept of "discourse" is used in the sense established by Michel Foucault, namely discourse as a source of the social effects of power and, correspondingly, of symbolic violence (Foucault, 1972). It shapes a specific mode of thinking by constructing antagonistic representations of "us" and "them," "we" and "the others," thereby normalizing violence as an acceptable practice and affecting societal attitudes. The adoption of a systematic and analytical approach to the language of war – one that reveals its structures, meanings, and functions beyond the immediate content of texts – contributes to a deeper understanding and critical reflection on this phenomenon. Such an approach makes visible the mechanisms through which language constructs realities, legitimizes violence, and shapes collective representations and identities.

Discourse analysis provides precisely such a methodological framework. It views language not merely as a means of describing reality, but as an instrument that actively constructs and sustains it. In the context of war-related texts, discourse analysis enables the examination of lexical units, metaphorical models, semantic fields, and rhetorical strategies through which war is legitimized, heroized, or presented as inevitable. By analyzing context, ideological markers, and the functional load of linguistic units, it becomes possible to trace how images of the enemy are constructed, how collective identities are formed, and how specific actions are justified. In this way, discourse analysis emerges as a key tool for the critical understanding of contemporary conflicts at both linguistic and cognitive levels.

The role of this type of analysis is particularly important in the education of students in the humanities and social sciences. Engaging with war-related discourses supports the development of higher-order thinking skills. Rather than approaching texts passively, students are encouraged to identify implicit assumptions, manipulative strategies, and to evaluate the mechanisms through which influence over the reader is achieved. In this way, discourse analysis of the language of war not only contributes to the scholarly study of conflicts but also fulfills an important educational function by preparing students for critical and responsible participation in contemporary public discourse.

The emergence of large language models (LLMs) and generative artificial intelligence (GenAI) provides a new toolkit for linguistic analysis. LLMs enable the partial automation of discourse analysis of the language of war and allow it to be presented in a structured and practically applicable form. This paper presents the modeling of the WarLang chatbot for conducting discourse analysis, as well as an analysis of the results obtained from its operation.

2. State of the art

In recent months, an increasing number of studies have focused on the analysis of the language of war using artificial intelligence–based tools. Research in this area is relatively recent but is developing at a rapid pace, driven by advances in LLMs and GenAI. GenAI models are trained on vast text corpora, within which they learn statistical and probabilistic relationships among linguistic units. As a result, they are capable of identifying complex linguistic patterns, extracting semantic and pragmatic relations, and interpreting discursive structures across different contexts.

In (Jester, 2024), a virtual AI-driven chatbot named Charlie is presented, which simulates military veterans. The chatbot is equipped with a military ontology that contextually defines objects and actors falling within the scope of the concept of "war." Through this ontology, the boundaries of war are delineated by reproducing various military narratives. Such chatbots may legitimize state-sanctioned interpretations of war and encourage indirect forms of militarism. In this way, representations of nationhood, gender, national and racial identity, among others, can be reproduced and reinforced.

Makhortykh and colleagues conduct an empirical study examining how LLM-powered chatbots developed by Google, Microsoft, and Perplexity address disinformation related to the Russia–Ukraine war (Makhortykh et al., 2024). The authors analyze the chatbots' ability to provide accurate information on the topic across different languages and temporal contexts.

Paziuk and colleagues develop an LLM-based tool called Attack-Index to investigate the creation and dissemination of manipulative narratives in the context of cognitive warfare during the Russia–Ukraine conflict (Paziuk et al., 2025). They employ a mixed-methods approach that combines AI-generated semantic analysis with expert validation. The authors propose an integrated analytical framework that merges semantic clustering with AI-based discourse detection, enabling the identification and monitoring of information threats in real time.

Another study focusing on the ability of artificial intelligence to perform discourse analysis is presented in (Rubab, Ali & Khan, 2025). The authors examine media texts covering the Palestine–Israel and Russia–Ukraine military conflicts. They conduct a critical discourse analysis (CDA), including dimensions such as power and ideology, lexical choice and agency, silences and emphases, and recontextualization. The study finds that AI is capable of critically uncovering ideological patterns in media discourse, while at the same time reflecting biases embedded in dominant Western ideological frameworks.

Verbytska examines the representation of the Russia–Ukraine war in media discourses (Verbytska, 2024). She employs various natural language processing techniques, topic modeling using Latent Dirichlet Allocation (LDA), and the BERT language model to reveal how media organizations shape narratives through strategic framing. The identified frames are further analyzed through named entity recognition using roBERTa, sentiment analysis with distilBERT, and corpus-linguistic methods implemented with LancsBox X, followed by an interpretation of different nuances in narratives, public perceptions, and political decision-making against the backdrop of the ongoing war.

In (Lu, Chen & Wang, 2025), a study is presented on the attitudes and roles of international scientific organizations in the Russia–Ukraine conflict. A total of 923 official statements are analyzed using a combination of discourse analysis and natural language processing (NLP) techniques, including sentiment analysis and topic modeling. The findings indicate that these organizations play a strategic role in shaping discourse and international relations and exert significant influence during geopolitical crises.

Another study aimed at evaluating sentiment in United Nations speeches on the Russia–Ukraine conflict is presented in (Kertcher & Zwilling, 2025). The authors employ the VADER and BERT models and compare their effectiveness. They conduct sentiment analysis to uncover emotional aspects and narrative analysis to examine context and implications. The study identifies sentiments favoring global cooperation and Ukraine, challenging claims of a divide between the Global North and the Global South. The authors emphasize that political discourse shapes public opinion and international relations, and that its analysis provides valuable insights into global politics.

Other scholars conduct research using data from social and clickstream media. Mir & Sofi set out to examine and analyze sentiments and discussion topics related to the Russia–Ukraine war (Mir & Sofi, 2024). They employ Tweet Archiver and extract a total of 49,994 tweets for analysis, covering the period from August 30 to September 30, 2022. Data processing is carried out using Python and its libraries; BERTopic is used for topic analysis, while the VADER library is applied for sentiment analysis. The study identifies ten dominant topics around which discussions revolve. The most prevalent topic, with the highest number of tweets, is "NATO's involvement in the Russia–Ukraine conflict," followed by "Geopolitical tensions and energy policy in China, India, Russia, and Ukraine." Sentiment analysis shows that most tweets are negative, with positive sentiments being least common, while many remain neutral toward the war.

Tretiakov et al. analyze over 23 million messages from 1,491 Telegram channels, focusing on key themes related to the Russia–Ukraine conflict and political tensions in Europe and the United States between 2016 and 2023 (Tretiakov et al., 2025). Their objective is to detect and measure toxicity in political content disseminated through Telegram channels. The study is conducted using a fine-tuned RoBERTa model. By combining data analysis, time-series analysis, and BERTopic modeling, the authors demonstrate how toxicity varies by topic, country, and time period.

Islam et al. analyze comments posted under YouTube videos published by major news outlets such as CNN, BBC, and others, with the aim of understanding public opinions about the war (Islam, Ferdusi & Aurpa, 2025). They use VADER to perform sentiment analysis and the BERT model to identify ten key war-related topics. Subsequently, the authors develop a model that combines BERT's ability to capture contextual information with the strengths of convolutional neural networks (CNNs) for feature extraction. This hybrid model classifies sentiments with an accuracy of 92.26%, confirming the applicability of contemporary artificial intelligence technologies in both practical and scientific research.

The conducted review reveals a wide diversity of artificial intelligence algorithms, technologies, and tools that are employed in different ways to automate the processes of data extraction, processing, analysis, and investigation of various aspects of war-related discourse.

3. Chatbot WarLang – concept, design, and core functionalities

The understanding that language does not merely describe war, but also creates, justifies, and sustains it motivates the development of the WarLang chatbot. Its purpose is to support the critical interpretation of war-related discourse. The chatbot is designed as an intelligent tool that reveals how realities, ideologies, and emotional attitudes are constructed through language. It serves as a means through which users can understand how media, political actors, and cultural narratives shape our perception of war.

At its core, WarLang supports the interpretation of texts by combining contextual understanding of language through its social and cultural meanings with

the examination of different levels of language itself—primarily the semantic and pragmatic levels. WarLang aims to uncover hidden meanings, functions, and implicit messages within the context of militaristic rhetoric and to illuminate the mechanisms through which language becomes a weapon. Its **conceptual framework** is grounded in the methods of critical discourse analysis, cognitive linguistics, and military rhetoric.

The **design** of the chatbot is guided by the requirement to combine academic precision with functional clarity. Its visual and communicative logic follows the principles of a scientific instrument rather than those of a conventional conversational agent: it does not merely respond, but analyzes, classifies, and provides argumentation. Its linguistic style is academic, neutral, and analytical, which ensures objectivity when working with ideologically charged texts. The chatbot adopts a modular approach, whereby each step of the analysis constitutes a self-contained component that can be adapted to different types of data, such as media publications, speeches, and literary texts.

The visual and functional design adheres to the principles of transparency and traceability: users can clearly observe how the analysis is performed, which categories are applied, and on what basis conclusions are drawn. In this way, the chatbot conveys a sense of scientific reliability and analytical depth by combining linguistic expertise with technological precision.

The core **functionalities** of the chatbot are designed to provide a comprehensive and structured analysis of the language of war. It functions as a linguist and discourse analyst specialized in war-related language. The chatbot is configured to operate in an academic style – analytical, precise, and free from emotional evaluation. Its main functions include a step-by-step discourse analysis across eight dimensions:

1. **Context and Tone** – Identification of the overall context and the communicative purpose of the text (e.g., propaganda, testimony, patriotic narrative). Description of the tone and the ideological position of the speaking subject.
2. **Extraction of Lexical Units** – Identification of key lexical units related to war. This includes military terminology (weapons, combat actions, ranks, and structures), neologisms, slang, metaphors, and offensive or ideologically charged expressions.
3. **Semantic Classification** – Classification of lexical items into semantic groups, such as: Weapons and Technology; Combat Actions and Strategies; Emotions and Psychological States; Heroization and Victimhood; Images of the Enemy; Cities and Symbolic Places; Ideological Markers; and Others. A brief commentary is added to indicate which groups dominate and what this suggests about the discourse.
4. **Functional Analysis** – Analysis of the functions of these lexical units in a tabular format, focusing on: Evaluative Load (positive/negative connotations), Metaphoricity (literal or figurative usage), and Ideological Charge (nationalism, propaganda, legitimation).

5. **Thematic Lexicon** – Construction of a thematic lexicon organized by groups. For each word or expression, a brief explanation or contextual description of its use is provided.

6. **Metaphor Analysis** – For each metaphor, a determination is made as to whether it is conceptual (linked to deep cognitive models and frames) or thematic (situational and context-dependent). Metaphors are classified according to conceptual frameworks, such as "War as a Game," "The Enemy as Disease/Monster," "Home as a Fortress," "Weapons as Saviors," among others. An explanation is provided of how these metaphors shape the understanding of war.

7. **Discursive Strategies** – Description of the strategies employed for: legitimizing violence, constructing enemy images, and creating ideological narratives (e.g., demonization of the enemy, heroization of "one's own" victimization of the people, moral justification of actions). The linguistic means through which these strategies are realized are identified.

8. **Genre Identification** – Identification of the genre of the text (e.g., dramatic, epic, lyrical, journalistic) and justification for its classification based on lexical choice, style, and rhetorical devices. Possible genre hybridity is also identified.

The model of the WarLang chatbot is presented schematically in Figure 1.

In order to select the language model to power the chatbot, multiple experiments were conducted with various models, including GPT-5, Claude-Haiku-4.5, Gemini-2.5-Pro, Grok-4, DeepSeek-v3.1, Perplexity-Sonar-Pro, among others. To perform a comparative analysis of these models' ability to generate discourse analysis of the language of war, different LLMs were tested using the same prompt on identical texts. The results exhibited varying levels of analytical depth and precision. Some of these outputs are available for review, including GPT-5 (GPT-5, 2025), Claude-Haiku-4.5 (Claude-Haiku-4.5, 2025), Gemini-2.5-Pro (Gemini-2.5-Pro, 2025), Grok-4 (Grok-4, 2025), DeepSeek-v3.1 (DeepSeek-v3.1, 2025), and Perplexity-Sonar-Pro (Perplexity-Sonar-Pro, 2025). Based on the results obtained at the time of the experiment, GPT-5 was selected as the most suitable model.
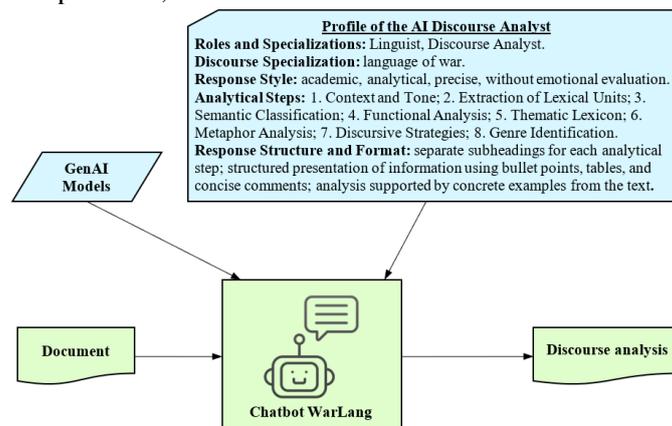

Figure 1. WarLang chatbot model.

The developed chatbot is available at: https://poe.com/WarLang-EN (WarLang-EN, 2025).

4. Use case

To illustrate the operation of the chatbot, we present a concrete example. A short text – "War Speech, 1939" (Churchill, 1939) – was selected. This is a speech by Winston Churchill delivered at the beginning of World War II. It is striking and rhetorically powerful, drawing on heroic models from the past – war in the name of peace, rights, freedom, and the dignity of ancestors. The speech aims at national mobilization and the rhetorical legitimation of war, making it a compelling object for examining language as an instrument of power and persuasion in a moment of global conflict. In addition, the text is lexically rich and highly metaphorical. The discourse analysis generated by the WarLang-EN chatbot is available at: https://poe.com/s/YgujcavLexyrxb0SKXk7. An excerpt is presented in Figure 2.

Figure 2. Partial output of the discourse analysis generated by the WarLang chatbot

The discourse analysis produced by WarLang was subjected to a critical review by a domain expert (a philologist). Each step of the analysis was evaluated. The main findings are as follows:

1. **Context and Tone.** The chatbot is fully accurate in identifying the context (military-political) and the tone of the communicative situation (solemn). It also highlights traces of sermonic register due to the sublime resonance of the expressions "At this solemn hour" and "Our conscience is clear," which can indeed be symbolically associated with the Eucharistic rite held on a Sunday and requiring complete spiritual purity from those who partake in communion. It correctly determines that the rhetoric operates in two registers – deliberative and epideictic (laudatory). The ideological position is presented as liberal-democratic, deriving its legitimacy through the suggestion of a civilizational mission. The evidence provided is fully relevant to the ideological stance of the speaker as identified by the chatbot.

2. **Extraction of Lexical Units.** The extraction and classification of lexical units is correct and appropriate, demonstrating that the chatbot identifies all relevant lexical items associated with war and militaristic rhetoric. The structure of the text is analyzed comprehensively and in depth. The chatbot captures all ideologically marked lexemes, as well as metaphorical and symbolic meanings consistent with the epideictic tone. No false units are found in the lexical extraction, which indicates precision in the chatbot's handling of lexical items.

3. **Semantic Classification.** Semantic classification is performed consistently and multidimensionally, demonstrating contextual precision in interpreting polysemous words, as well as appropriately identifying ideologically charged images related to victimization and heroization. A key and important observation is the chatbot's recognition of the metaphorical frameworks of discursive persuasion through moral legitimation and collective identity, rather than through literal designations of combat actions and weaponry. This indicates that lexical items are not extracted mechanically, but with sensitivity to their conceptual dimension.

4. **Functional Analysis.** The functional analysis, based on criteria such as emotional evaluation, metaphoricity, and ideological charge, adequately represents the expressions and lexical items employed in the rhetoric of democratic deliberation and praise. The extracted lexical units are more complex in nature, being presented as multi-word expressions and phrases, which is also indicative of the conceptual relevance of the analysis.

5. **Thematic Lexicon.** The thematic lexicon generated by the chatbot demonstrates interpretative and analytical precision. The selected lexical items are diverse while simultaneously reflecting the ideas and themes that are central to the discourse analysis of militaristic discourse. The

terms are supported by relevant textual citations and are conceptualized in light of the targeted ideological markers. The discursive sample is representative of the topic and, in this sense, functions as a viable model for the thematic grouping of lexical units.

6. **Metaphor Analysis.** In the metaphor analysis, the chatbot demonstrates a high level of critical and differentiated approach. It is exhaustive in identifying key conceptual and thematic metaphors. A particularly valuable extension in this regard is the presentation of the metarhetorical effect produced by each metaphor. Here, the chatbot offers key observations that may assist in uncovering hidden propaganda.

7. **Discursive Strategies.** All examples related to specific discursive strategies are appropriately selected and correspond well to the overall semantic and rhetorical effect of the speech. The analysis progresses from broader discursive units – such as enemy images, political justification, and ideological narratives – toward specific linguistic features associated with the use of tropes and figures that enhance the elocutionary function of the speech.

8. **Genre Identification.** With regard to genre identification, the chatbot performs flawlessly. It is important to note the usefulness of the proposed differentiation between a primary genre and hybrid subgenres associated with certain striking phrases in the speech that convey a sense of ritual solemnity and grand historical significance of the forthcoming event. The examination of genre heterogeneity within the text represents an important aspect of discourse analysis.

Overall, the discourse analysis is accurate and comprehensive, and it is logically well structured. It is presented in a clear and consistent academic style, with appropriate terminology. The analysis is distinguished by a high degree of precision in identifying and interpreting discursive strategies and ideological load.

5. Conclusion

The results of the study indicate that the developed chatbot can be successfully used to support and enhance the efficiency of linguistic analysis. The proposed model is flexible and can be easily configured and applied to other thematic areas of discourse analysis.

The study has several limitations inherent to the use of large language models. The interpretative framework is dependent on the data on which the employed GenAI model has been trained. For this reason, the chatbot cannot fully replace the contextual and cultural sensitivity of human analysis. An additional limitation stems from the demonstrative nature of the empirical material, which does not encompass the full genre and media diversity of war-related discourse, as well as from the limited scope of expert validation.

Nevertheless, WarLang offers significant benefits in an educational context. It can be used by instructors as a didactic tool for the illustrative demonstration of the stages of discourse analysis and in the preparation of teaching materials. For

students, the chatbot creates an environment for active learning in which they can experiment with different texts and develop their linguistic competencies.

Future research will involve the implementation of a targeted empirical experiment aimed at the systematic evaluation of the ability of generative artificial intelligence to perform discourse analysis. For this purpose, a corpus of texts representing different genres and types of war-related and militarized discourse will be compiled, on the basis of which discourse analyses will be generated using various generative models. The resulting analyses will then be subjected to expert evaluation through standardized survey instruments completed by specialists in linguistics and discourse studies. This approach will enable both quantitative and qualitative assessment of the analytical adequacy, interpretative depth, and methodological reliability of GenAI, as well as the identification of its strengths and limitations as a tool for scholarly and educational discourse analysis.

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