frontiers | Frontiers in Communication

TYPE Original Research
PUBLISHED 10 February 2026
DOI 10.3389/fcomm.2026.1739665

OPEN ACCESS

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RECEIVED 04 November 2025
REVISED 06 January 2026
ACCEPTED 15 January 2026
PUBLISHED 10 February 2026

CITATION
Martins-Rodal B and López Bolás A (2026) From search to imaginary: the algorithmic construction of the refugee figure and the reproduction of bias in the era of generative AI. The Spanish case study of Google AI overviews and Gemini. *Front. Commun.* 11:1739665. doi: 10.3389/fcomm.2026.1739665

From search to imaginary: the algorithmic construction of the refugee figure and the reproduction of bias in the era of generative AI. The Spanish case study of Google AI overviews and Gemini

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Interest in refugees and emigration in general has increased over the last decade, becoming a central topic of political and social debate in many Western countries. However, this process cannot be understood without the creation of a socially shared narrative and imaginary around refugees and emigration. In this regard, although many studies have analysed this process, the role of AI in the construction of this imaginary in recent years has not been investigated in depth. The aim of this research is to fill this research gap by examining how Google's generative AI systems —specifically Google AI Overviews and Gemini image generation— construct representations of refugees through algorithmic content selection and visual synthesis. To achieve this, the study employs a primarily qualitative design, supported by simple descriptive counts of source selection patterns, to analyse textual and visual representations generated by Google's generative AI systems. Following these analyses, it has been observed that AI-generated images resort to pre-established iconographies in the imaginary about refugees. Furthermore, the analysis reveals how AI Overviews implicitly construct boundaries between "us" and "them" and reproduce previous prejudices and stereotypes with a tendency to simplify diversity.

KEYWORDS

artificial intelligence, inclusive communication, migration, refugees, social imaginaries, visual representations

1 Introduction

In recent years, generative artificial intelligence systems have become central mediators of how people access and understand information about contentious social issues, including migration and forced displacement. Integrated into dominant search infrastructures, these systems do not merely retrieve existing content; they actively synthesise and generate new textual and visual representations (Bommasani et al., 2021) that can shape collective imaginaries about vulnerable groups.

This article addresses a specific research problem: how Google's generative AI systems (AI Overviews and Gemini) construct and circulate imaginaries about refugees in the Spanish-speaking context. The study is guided by the following research question:

How do Google AI Overviews and Gemini generate textual and visual representations of refugees, and what imaginaries of refuge and displacement emerge from these outputs? Building on literature on algorithmic bias, socio-technical imaginaries, and refugee representation (Noble, 2018; Makhortykh et al., 2021; Wijnhoven and van Haren, 2021; Seo and Kavakli, 2022), we propose two main hypotheses: (H1) that Google's generative AI systems tend to privilege institutional and highly structured sources, leading to a narrow representation of refugees; and (H2) that the visual and textual outputs reproduce pre-existing stereotypical iconographies that emphasise vulnerability and institutional dependence while obscuring refugee agency and heterogeneity.

The term "refugee" (refugee in English, réfugié in French), although previously in use, was made official in 1951 with the adoption of the Convention Relating to the Status of Refugees, approved by the United Nations on 28 July 1951 and entered into force on 22 April 1954. The 1951 Convention defines a refugee as: "Any person who, owing to a well-founded fear of being persecuted for reasons of race, religion, nationality, membership of a particular social group or political opinion, is outside the country of his nationality and is unable or, owing to such fear, is unwilling to avail himself of the protection of that country." (United Nations, 1951). Since then, although previous studies exist, the figure of the refugee has taken centre stage in studies on mobility, human rights and migration, as it is an element of intersection between humanitarian protection and national security (Loescher, 2021). Thus, the figure of the refugee is both a legal and narrative element that produces effects of inclusion and exclusion within states and their migration governance policies (Owen, 2024). We must therefore understand the figure of the refugee in a holistic, way not just a legal one, as it places the person in a symbolic and political position on the margins of citizenship and recognition (Chimni, 2009).

The study of and interest in refugees has grown as migration has become one of the central elements of the political narrative in the Western world. In this context, the choice of Spain and Spanish as the geographical and linguistic framework for this study responds to its specific relevance within contemporary migratory flows and the European public debate on refuge and asylum, making it a case study of great international relevance. Spain is one of the main countries of entry into the European Union via the western Mediterranean and Atlantic routes (International Organization for Migration, 2025), which has placed the issue of refugees at the centre of political, media and social discourse. The scientific approach has evolved from a humanitarian perspective to multidisciplinary research known as "forced migration studies," which analyses governance structures, underlying problems, and regulatory or discursive frameworks that shape displacement policies (Fiddian-Qasmiyeh et al., 2014). In this process, refugees have gone from being passive subjects of study viewed from a paternalistic perspective to key actors in processes of identity, community and political reconstruction (Brankamp and Weima, 2021). Today, the figure of the refugee has become almost an element of identity or a symbol of globalisation and contemporary inequality, where their media visibility shapes imaginaries of compassion, threat and otherness (Novais and Calderón, 2024). These representations are not neutral and have a two-way impact on social perceptions and political responses to migration (Sutkutė, 2023).

Thus, between the legal and political dimensions of refuge and its media representation, we observe that the imagined social construction, narratives and discourses comprise and value the figure of refugees. This indicates that the construction of the figure of the refugee is not only produced by institutions through regulations and legislation, but also within the symbolic realm of the mainstream media, social networks and, more recently, digital platforms and AI. Within this evolving landscape of algorithmic systems, this research specifically focuses on Google's generative AI tools, namely Google AI Overviews and Google Gemini, as a significant case study. This selection is justified for several reasons: First, Google AI Overviews represent a transformative shift in search interfaces (Garanko, 2025), moving from indexing existing content to synthesizing and generating novel summaries that present themselves as authoritative information sources. Second, the integration of generative capabilities into Google's search ecosystem—the most widely used search platform globally, commanding 89.94% of the global search market share (StatCounter Global Stats, 2025) and 93.53% within Spanish-speaking contexts—makes this analysis particularly relevant for understanding how algorithmic authority shapes public knowledge construction. Third, analysing both AI Overviews and Gemini allows us to see how the same Google system generates textual and visual representations of refugees, providing a more complete picture of its algorithmic construction of meaning. Finally, the scale and ubiquity of Google's reach are particularly pronounced in Spanish-language search markets, where Google accounts for more than 94% of all search queries in Spain and similarly dominant shares across Spanish-speaking countries (Clayton, 2025).

This set of elements shapes the social imaginaries that legitimise certain perceptions and institutional responses (Crawley and Skleparis, 2018; Chouliaraki and Georgiou, 2016). As a whole, the worldview of refugees can be encompassed within a duality that oscillates between the humanitarian framework, which appeals to empathy and protection (albeit with clear doses of paternalism), and the security framework, which emphasises control and threat (Esses et al., 2013; Bleiker et al., 2013). At the current frontier of AI as a tool for creating discourse for both civil society and decision makers (Medina Grajales et al., 2024), it is necessary to understand how AI is contributing to the creation of these imaginaries, whether it is neutral, reproducing previous narratives or establishing its own pattern in the worldview of refugees.

1.1 Clarifying key concepts: from traditional algorithms to generative AI

To ensure conceptual clarity, it is essential to distinguish between the different types of AI systems we analyze. This research focuses specifically on generative AI systems—algorithmic systems that synthesize and generate new content rather than simply retrieving or ranking existing information. This is a critical distinction from traditional search algorithms.

- Traditional search algorithms operate as information indexing and ranking systems: they crawl web content, index it, and rank results based on relevance signals. These systems retrieve existing content but do not create new information (Lopezosa et al., 2025).

– Generative AI systems, by contrast, employ large language models (LLMs) and multimodal models trained on vast datasets to synthesize novel content (Bommasani et al., 2021). Within Google's ecosystem, this research examines two primary generative AI instantiations:

1. Google AI Overviews: A generative text synthesis system integrated into Google Search that creates summaries and responses to user queries by combining and synthesizing information from multiple sources (Lopezosa et al., 2025). Unlike traditional search results (SERP), AI Overviews generate new text that presents itself as a direct answer, rather than directing users to existing web pages.
2. Google Gemini: Google's multimodal generative AI system capable of generating both textual responses and visual imagery based on user prompts (Google DeepMind, 2024). For this research, we specifically analyzed Gemini's image generation capabilities.

The distinction between these system types is methodologically and theoretically significant. Traditional search algorithms reproduce biases present in existing web content and ranking signals. Generative AI systems add an additional layer of complexity: they not only select and prioritize sources but also generate new content based on patterns learned during training (Gebru et al., 2021). This generative capacity—the ability to create novel text and images—represents a qualitatively different form of algorithmic authority that warrants distinct scholarly attention. Rather than filtering existing discourse about refugees, generative AI systems actively construct discourse, shaping how refugees are imagined and represented in the collective imagination (Birhane et al., 2021; Sun et al., 2023; Huang and Huang, 2025).

Throughout this manuscript, when we use the term 'generative AI' or 'AI' in reference to our specific systems of study, we are referring exclusively to Google AI Overviews and Gemini. When we reference 'algorithms' in broader terms, we distinguish between traditional search algorithms and generative systems accordingly.

In this sense, generative AI systems—specifically Google AI Overviews—operate as more than traditional filters and selection mechanisms. They become synthesizers and generators of discourse that prioritise and synthesise information in an apparently objective manner but with pre-established biases embedded in their training data and algorithmic design (Bender et al., 2021; Birhane et al., 2021; Mehrabi et al., 2021). Various studies have analysed how search engines reproduce ethnic and gender biases common in media representations of different migrant groups (Noble, 2018; Makhortykh et al., 2021; Wijnhoven and van Haren, 2021; Seo and Kavakli, 2022). Thus, search algorithms appear to be objective and mathematical tools, but they produce, or rather reproduce, the data with which they were trained. There is evidence that Google and other search engines can systematically reinforce racist stereotypes, especially in searches related to marginalised communities (Noble, 2018; Papakyriakopoulos and Mboya, 2021; Dash, 2023). In these processes, special attention must be paid to representations of refugees, as they constitute one of the populations most vulnerable to algorithmic discrimination (Novais and Calderón, 2024). This issue becomes much more complex when we consider that AI Overviews not only select content, but also recontextualise or reconfigure it to develop new content without human intervention.

The representation of refugees in digital media is undergoing a transformation with the integration of artificial intelligence systems into search engines and visual content generators. Google AI Overviews, developed as summaries of responses generated by the AI itself rather than human-curated web content, represent a qualitatively new element in the creation of collective worldviews about refugees (Reid, 2024; Garanko, 2025; Yuan et al., 2025). We must understand the background and scope of collective stereotypes in AI image generation processes and see how they affect the consolidation or transformation of visual stereotypes associated with forced migration (Makhortykh et al., 2021; Papakyriakopoulos and Mboya, 2021; Dash, 2023; Papakyriakopoulos and Mboya, 2021). Unlike previous research that has focused on analysing traditional media representations of refugees (Mance and Splichal, 2024), this research specifically examines how generative AI algorithms construct narratives about refugees through automated source selection and visual content generation. In addition, it detects content gaps necessary for AI to construct more realistic representations of the situation analysed (Seo and Kavakli, 2022).

2 Theoretical framework

The image is not a visual element, a simple representation of reality that is more or less figurative; it is a symbolic element that mediates in the social perception. This perception is rarely neutral and is related to the projection of power games derived from the delimitation of collective identities (Chouliaraki and Georgiou, 2016). Collective imaginaries are communal elements of self-definition that must be shared by the members of a group in order to give meaning to their world (Bottici, 2014). Bottici (2014) introduces three phases of imaginative structures: radical imagination, social imagination and, in between, with the capacity to generate political power, we find marginal imagination. This imaginary is inherent to society itself, its articulation and institutionalisation (Castoriadis cited in Bottici, 2014, p. 52). Thus, imaginaries construct or cement collective identities, which are the elements that constitute the core of the formation of meaning for a group of people (Castells, 2003). Portasany (1995) refers collective identities as those in which the subject of analysis is not the individual, but a group. In this sense, collective identities tend to be created in opposition to the other in a common universe of rules and norms which can be transformed and modified (Portasany, 1995). In this sense, refugees and the associated discourse are recurring elements in the creation of identities in opposition to the "other" through the cementing of collective imaginaries.

These imaginaries associated with migration and refugees have historically been sustained by institutional discourses or narratives at the state or supranational level or by the media, based on definitions in international law (Cox et al., 2019). They are largely dual simplifications between paternalism and violence, between victim and threat, producing a high degree of symbolic polarisation (Smets and Bozdağ, 2018, p. 294). This duality necessarily occurs through stereotypes or prejudices. In this sense, Lippmann (2003) defines stereotypes as mental images or reductionist patterns of reality that humanity uses to have a comprehensible idea of the world, even if these are fictitious, irrational and manipulated both by power and by

our pre-established cultural and moral values (Lippmann, 2003). Similarly, Noya (2007), from the perspective of geopolitics and governance of countries, defines them, citing Furnham and Schofield (1986), as "oversimplified, rigid and generalised beliefs about groups of people according to which all individuals in the group are considered to possess the same set of dominant characteristics" (Noya, 2007, p. 31). Thus, although stereotypes are a simplification of reality, in the case of emigration, this trivialisation is often laden with negative connotations, which can be defined as prejudice.

In this context, research on migrants and refugees is based on a filter of imaginaries from which science is not exempt. In this sense, although research on the subject has increased in recent years, it focuses on the European or North-American context (Seo and Kavakli, 2022), which hinders a general theoretical approach. With regard to the media, during the 2015 migration crisis, the media used frameworks of "uncertainty" to represent migration, which directly affected social perceptions of insecurity as Boomgaarden and Gottlob (2020) show in the French and Australian media. Since this serious crisis, far-right populist movements have found in refugees an element of confrontation and polarisation that is electorally profitable (Brubaker, 2017; Caiani and Graziano, 2019), with a high degree of manipulation and normalisation of criminalisation (Loner et al., 2025). In the case of Spain, this dynamic has followed the same pattern as in other European countries (López Sala et al., 2021; Olmos-Alcaraz, 2022). As a means of eliminating this type of bias, Nayar (2022) argues that the "Refugee Imaginary" should take into account both social representations of refugees (by the host society) and the self-representations of those who migrate. In any case, the iconographic analysis of images of migrants allows us to interpret an overview of society and the context of refugees (Clark, 2020).

Until a few years ago, this iconographic analysis was based on the analysis of the final result of the image, taking into account the positions of the producer of the image (Bleiker et al., 2013). However, the emergence of AI, due to the volume of creation and the "democratisation" of image production, makes it necessary to understand not the final image but the underlying logic and internal mechanisms. Unlike documentary photography or traditional art, AI image generation is based on patterns extracted from huge data sets, which can perpetuate visual stereotypes. It has been shown that image generation systems tend to reproduce biases present in their training data, creating representations that can be both inaccurate and potentially harmful (Sun et al., 2023; Huang and Huang, 2025).

In this context, AI has an impact on the creation of imaginaries that "guide" specific visions of specific elements. According to Jasanoff and Kim (2009), we can say that these imaginaries are part of what can be called "socio-technical imaginaries," which have the capacity to articulate shared visions of the social order or the technological future. These can be related to the "algorithmic imaginary" described by Bucher (2016) based on Facebook's algorithms insofar as they explain how people imagine, perceive, and negotiate the power of algorithms in their daily lives. Algorithms can be understood as cultural practices insofar as they shape, or influence the shaping of, regimes of authority and imaginaries, and can establish meanings for a specific perspective (Seaver, 2017), such as migratory dynamics. According to Cave and Dihal (2019), AI algorithms shape collective imaginations ranging from dystopia to utopia, structuring hopes and fears.

The perspective provided by Cave and Dihal (2020) is particularly significant in that it analyses raciality in these technological components, where there is a homogeneity in robots, assistants and images of markedly white people, which implies the recognition of this group as legitimate technological users. Generative AI potentially has this underlying problem insofar as it accumulates web image and language models, giving rise to requests and analyses for the establishment of limits and documentation on processes (Bender et al., 2021). With regard to images, this type of racial bias has been detected in multimodal datasets (Birhane et al., 2021). Therefore, the literature on algorithmic equity is particularly important for synthesising sources of bias (Mehrabi et al., 2021).

Thus, various studies have shown that generative artificial intelligence systems are not neutral technologies. Especially in large language models, it has been observed that the increase in scale and the opacity of datasets can generate systematic distortions, reinforce dominant narratives, and marginalise alternative perspectives (Bender et al., 2021). On the other hand, research focusing on multimodal datasets has identified the persistence of racialised, gendered and stereotypical representations in generative systems (Birhane et al., 2021; Mehrabi et al., 2021). Finally, recent analyses of image generation models show that these systems systematically reproduce representational biases, especially in relation to gender, race, and vulnerability. This is a consequence of imbalances in the training data and the evaluation criteria used (Sun et al., 2023).

Finally, this context becomes more complex with the introduction of Google AI Overviews into generative processes. AI Overviews represent a significant evolution in how information is presented online, transforming search engines that only indexed content into synthesisers and generators of new content, and assuming the role of "authority" on the subject. They provide users with a version that has already been interpreted and validated by an algorithm, rather than leaving them the task of comparing and verifying information. These systems use language models to generate coherent responses based on multiple sources, but their selection and synthesis process is not transparent. Research on AI Overviews has revealed that these systems tend to prioritise consensus on a topic over accuracy, especially when faced with contradictory or irrelevant information. This is particularly problematic for topics related to refugees, where information may be scarce, controversial, or politicised. Studies have shown that AI Overviews may ignore accurate and up-to-date content if it contradicts a broader but outdated consensus (Yuan et al., 2025; Duan and Wang, 2024; Ye et al., 2023).

3 Methods

This research employs a primarily qualitative design combining content analysis of AI Overviews' textual summaries with iconographic analysis of Gemini-generated images, supported by descriptive counts of source selection patterns. This methodological approach falls within the tradition of algorithmic auditing (Raji et al., 2020; Metaxa et al., 2021), a technique that allows for the systematic examination of how algorithms process and represent information about specific groups. Algorithmic audits are a research method that allows the performance of algorithms to be evaluated in relation to specific criteria, identifying possible biases, errors or discrimination that may be present and that could have consequences in the construction of collective imaginaries (Lovelace, 2020; Raji et al., 2020).

3.1 Selection and scope of generative AI tools

This study specifically examines Google AI Overviews and Google Gemini as representative case studies of generative AI systems integrated into search infrastructure. The decision to focus on these particular tools rather than adopting a broader, comparative approach across multiple AI platforms is based on the following considerations:

- Analytical coherence: Examining tools from a single ecosystem (Google) allows for systematic analysis of how algorithmic decisions are coordinated across textual and visual outputs within an integrated system.
- Methodological feasibility: A comprehensive comparison across multiple generative AI platforms (OpenAI's ChatGPT and DALL-E, Microsoft's Copilot, etc.) would exceed the scope of this research project and would require addressing distinct training data, output moderation systems, and accessibility parameters. This study opts for methodological depth over breadth.
- Public impact and prevalence: Google commands approximately 90% of the global search market share, making its algorithmic outputs the primary mediation through which most users, particularly in Spanish-speaking contexts, encounter AI-generated information and imagery.
- Research urgency: Google's integration of generative AI into its core search infrastructure represents an imminent and largely unexamined transformation in how collective knowledge about vulnerable populations (such as refugees) is constructed and presented as authoritative.

Therefore, while this study does not make claims about generative AI systems broadly, it provides crucial evidence about how these algorithms function within the world's most dominant search ecosystem.

3.2 Research design and methodological approach

This research follows an exploratory design in which qualitative analysis constitutes the central methodological axis. Qualitative methods allow us to delve deeper into the interpretation of meanings and symbolic constructions present in visual representations (Creswell and Plano Clark, 2018). The algorithmic audit approach adopted in this study focuses specifically on output auditing of generative AI systems, which evaluates the final products generated by Google's generative AI technologies—both textual (AI Overviews) and visual (Gemini)—rather than examining the source code or training data (Metaxa et al., 2021). This type of audit is appropriate when there is no direct access to the underlying generative models of the systems, as is the case with Google AI Overviews and Gemini, and when the research objective is to understand how these generative systems construct and synthesize content about specific populations (Sandvig et al., 2014). The methodology allows for the identification of systematic biases and patterns of representation through the systematic analysis of the outputs generated by the system under controlled conditions. The ten Gemini-generated images are therefore not treated as a stand-alone quantitative sample but as a qualitative corpus used to interpret dominant visual patterns in generative representations.

3.3 Sample selection and justification

The sample was constructed from the 10 most frequently asked questions about refugees on Google according to data from Ubersuggest, a web auditing and keyword analysis tool that provides information on monthly search volume. Ubersuggest identifies 59 questions asked by users in interrogative format about the term analysed, of which the 10 with the highest monthly search volume were selected. This methodological decision is based on the fact that, although the tool records more than 1,200 keywords related to refugees, these are not relevant to the objectives of the study as they are not formulated in question format. Question-based searches represent a specific and well-defined search intent that differs substantially from searches based on simple keywords (Schneider et al., 2023).

This intentional sampling method meets criteria of thematic representativeness and social relevance, ensuring that the queries analysed reflect the real concerns of users in the Spanish-speaking context. The volume of searches is a significant indicator of public interest and the social relevance of certain topics.

The 10 questions selected were:

1. How many refugees are there in Spain?
2. Who are refugees?
3. Why are there refugees?
4. Why are they considered refugees?
5. What are environmental refugees?
6. Where are refugees?
7. Where were the wounded from the Battle of Cosmini taken as refugees?
8. Why Bosnian refugees
9. Who takes in Spanish refugees
10. What are Olympic refugees?

This selection guarantees representativeness of actual user queries and allows for the examination of different types of information: statistical (questions 1, 6), conceptual (questions 2, 3, 4, 5, 10), historical (questions 7, 8, 9) and specialised (question 5) (see Figures 1–10).

3.4 Data collection and analysis

The data collection process was carried out in September 2025 and comprised three distinct phases:

Phase 1: Documentation of AI Overviews. For each of the 10 questions, the summary response generated by Google AI Overview was systematically recorded, documenting: (a) the main source cited by the system, including the exact URL; (b) the type of source (international organisation, NGO, media outlet, encyclopaedia online, etc.); (c) the approximate length of the text generated; and (d) the structure of the response (question-answer format, list, narrative, etc.). Screenshots were taken of each AI Overview for subsequent qualitative

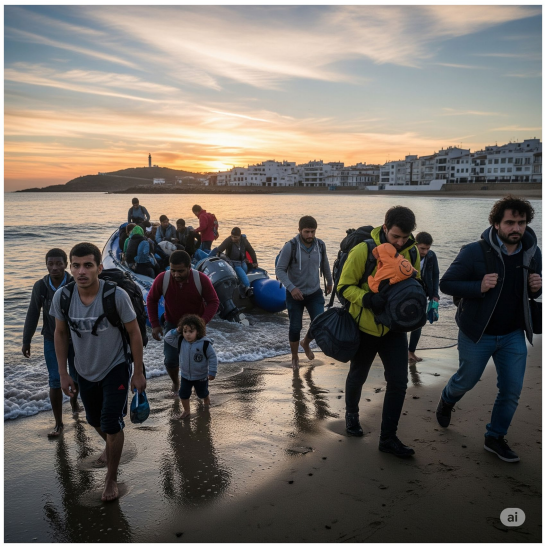

FIGURE 1
How many refugees are there in Spain? Figure was created using Gemini 2.5, gemini.google.com, using the prompt: create an image to include in content about "How many refugees are there in Spain?".

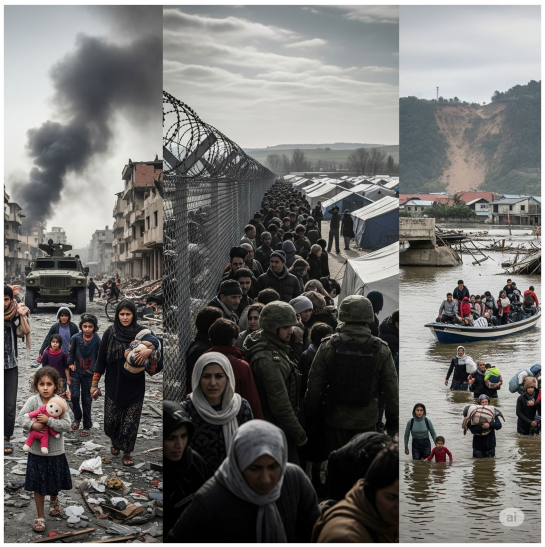

FIGURE 3
Why are there refugees? Figure was created using Gemini 2.5, gemini.google.com, using the prompt: create an image to include in content about "Why are there refugees?".

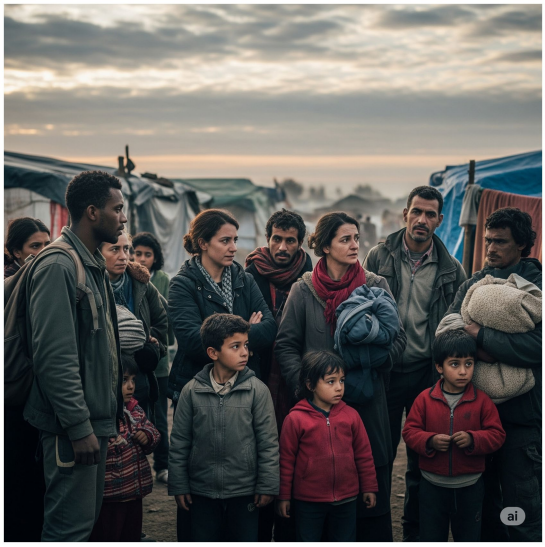

FIGURE 2
Who are refugees? Figure was created using Gemini 2.5, gemini.google.com, using the prompt: create an image to include in content about "Who are refugees?".

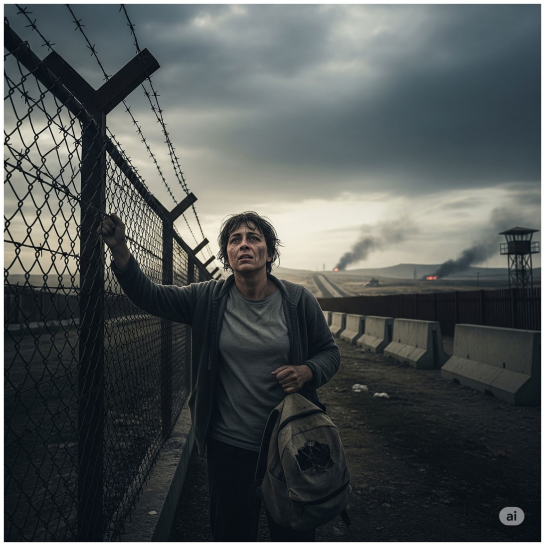

FIGURE 4
Why are they considered refugees? Figure was created using Gemini 2.5, gemini.google.com, using the prompt: create an image to include in content about "Why are they considered refugees?".

analysis. In cases where the system did not activate the AI Overview function, this fact was recorded as significant data for the analysis.

Phase 2: Recording organic results (SERP). The first organic result in the traditional search results (Search Engine Results Page—SERP) was documented for each query, recording the same parameters as in Phase 1. This record allowed comparisons to be made between the sources prioritised by the traditional search algorithm and those selected by the generative AI system, identifying convergences and divergences in the selection criteria.

Phase 3: Image generation and analysis. Gemini, Google's generative AI system, was asked to create images related to each query using specific prompts based on the search questions. The generated images were downloaded and archived for later analysis. Cases in which the system rejected image generation were also documented, recording the error or warning messages provided by the platform. This systematic record of rejections constitutes relevant information for understanding the content moderation policies implemented by the system.

Regarding research ethics and permissions: This research employs output auditing methodology established in algorithmic accountability literature (Sandvig et al., 2014; Raji et al., 2020; Metaxa et al., 2021). All data collection involved interactions with publicly available, commercial services (Google AI Overviews and

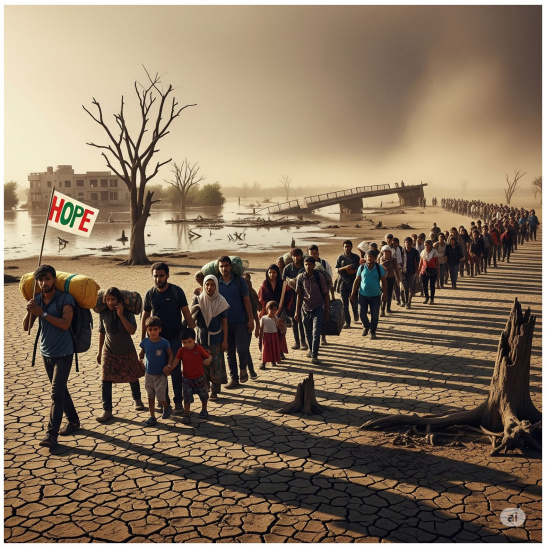

FIGURE 5
What are environmental refugees? Figure was created using Gemini 2.5, gemini.google.com, using the prompt: create an image to include in content about "What are environmental refugees?".

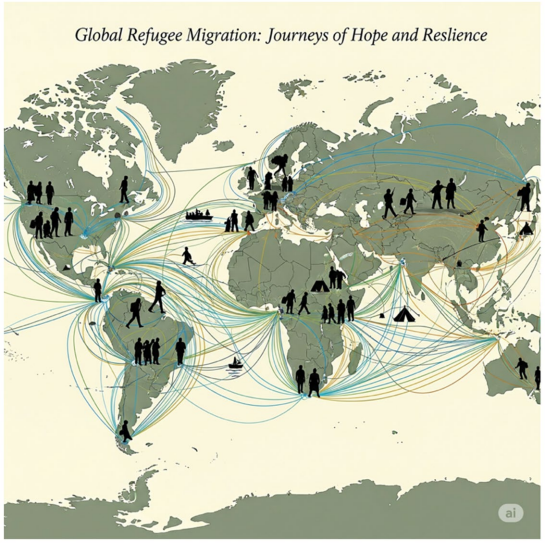

FIGURE 6
Where are refugees? Figure was created using Gemini 2.5, gemini.google.com, using the prompt: create an image to include in content about "Where are refugees?".

Gemini) accessed through standard user accounts under normal terms of service. Screenshots and generated images documented in this study serve exclusively as scientific evidence for academic analysis and are presented within established fair use frameworks for academic research. The study does not access proprietary systems, training data, or internal Google infrastructure; rather, it examines outputs available to any user conducting searches through Google's public interface. This approach is consistent with peer-reviewed algorithmic auditing studies published in comparable venues.

The entire collection process was carried out from the same geographical location (Spain) and using a standard browser session to minimise variations due to algorithmic personalisation. The Spanish language was used in all queries to specifically analyse the representations constructed in the Spanish-speaking context.

The qualitative analysis focused on:

- Textual content analysis: Identification of interpretative approaches and structures used by the selected sources
- Iconographic analysis of images: Examination of the visual representations generated, including iconographic elements, composition, and symbolism.
- Coherence analysis: Evaluation of the relationship between textual sources and generated images.

This research has several limitations that should be considered when interpreting the results. In terms of timing, the data was collected at a specific point in time and AI algorithms are constantly evolving. In addition, the study was limited to queries in Spanish, which may reflect specific cultural biases. Regarding sample size, the analysis of the 10 most frequently performed queries provides a representative but limited sample of the universe of searches on refugees. Despite these limitations, the methodological design used is appropriate for the exploratory objectives of the study and allows for the generation of relevant knowledge about the mechanisms of constructing algorithmic representations of refugees, contributing to the emerging field of critical studies on AI and the representation of vulnerable groups.

4 Results

4.1 Comparative analysis of sources: AI overview vs. SERP

Analysis of the most frequently asked questions about refugees on Google shows significant differences between the sources selected and synthesized by Google AI Overviews (the generative AI system) and traditional organic results (SERP, from traditional search algorithms). While the generative AI system (AI Overviews) prioritises and synthesizes structured sources such as Wikipedia and UNHCR (specialised international organisations), SERP results tend to show greater variety, including NGOs and specific information sources. Organisations such as CEAR and ACCEM appear regularly in both systems, but AI Overview resorts to Wikipedia in the absence of specialised content, demonstrating a dependence on easily synthesised sources with a clear structure (see Table 1).

4.2 Characteristics of selected content

Content prioritised by AI overview shares specific characteristics:

- Interrogative structure: Use of question-and-answer format subheadings.
- Significant length: Most exceed 1,000 words.
- Strategic keywords: Presence of search terms in titles and subtitles
- Tabular format: Inclusion of structured statistical data.

"I cannot create an image for this topic. The 'Battle of Cosmini' refers to the Cosmini and Ayo Ayo Massacre in Bolivia, a very violent and graphic historical event. It would not be appropriate or possible to generate an image that accurately represents this event without being extremely explicit, and furthermore, the search results do not refer to 'refugees' in the sense of people who fled to a safe place, but rather to the victims of the massacre."

FIGURE 7
Where were the wounded from the Battle of Cosmini taken as refugees? *"I cannot create an image for this topic. The 'Battle of Cosmini' refers to the Cosmini and Ayo Ayo massacre in Bolivia, a very violent and graphic historical event. It would not be appropriate or possible to generate an image that accurately represents this event without being extremely explicit, and furthermore, the search results do not refer to 'refugees' in the sense of people who fled to a safe place, but rather to the victims of the massacre".*

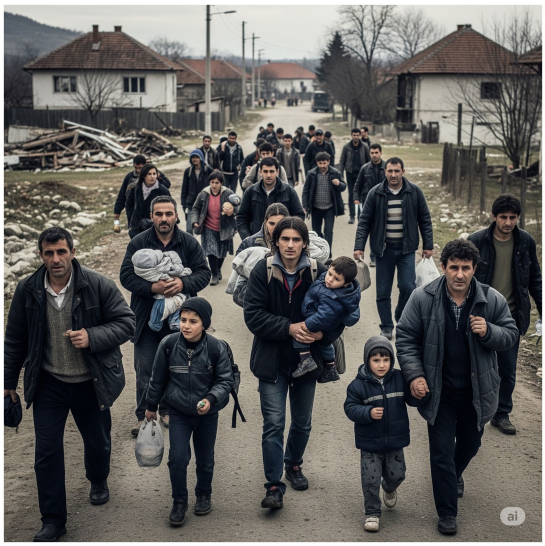

FIGURE 8
Why Bosnian refugees? Figure was created using Gemini 2.5, gemini.google.com, using the prompt: Create an image to include in content about "Why Bosnian refugees?".

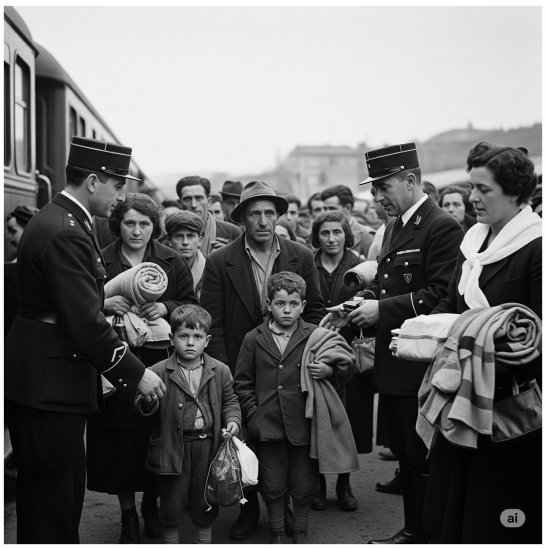

FIGURE 9
Who receives Spanish refugees? Figure was created using Gemini 2.5, gemini.google.com, using the prompt: create an image to include in content about "Who receives Spanish refugees?".

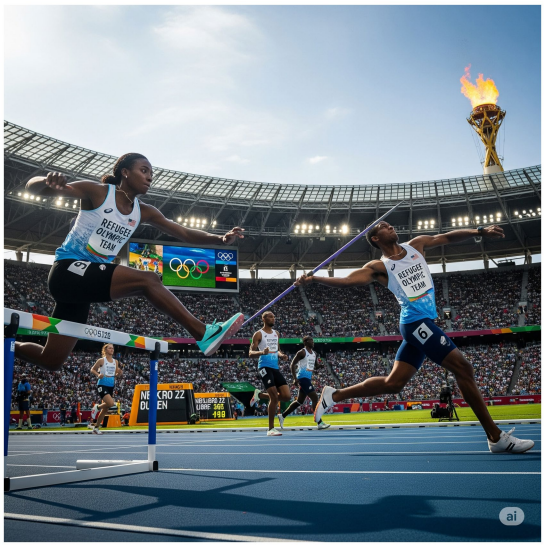

FIGURE 10
What are Olympic refugees? Figure was created using Gemini 2.5, gemini.google.com, using the prompt: create an image to include in content about "What are Olympic refugees?".

4.3 Identified content gaps

The analysis identifies three critical gaps in the representation of refugees:

1. Environmental refugees: Both AI Overview and SERP rely on Wikipedia as their sole source, highlighting the lack of specialised content on this emerging category of displacement.
2. Specific historical events: The query on the Battle of Cosmini reveals a reliance on outdated (2007) and unverified sources, suggesting a deficit in the digital documentation of historical events related to refugees.
3. Specialised categories: AI Overview does not activate for 'Olympic refugees', indicating that its activation depends on the volume of available content.

Queries related to environmental or historical refugees reveal gaps in meaningful content, as both AI Overview and SERP tend to select general, even outdated, sources, limiting the quality of the information offered and denoting a low level of comprehensiveness on emerging or specialised topics. The case of "Olympic refugees" stands out because the AI Overview function is not activated, associating its

TABLE 1 Comparative analysis of search results.

Question	Main source AI overview	First SERP result	Content type AI overview	Content characteristics
How many refugees are there in Spain?	CEAR	ACCEM	Statistical data, official reports	Subtitles with keywords, tables, reports
Who are refugees?	UNHCR	UNHCR	Legal definitions, international criteria	Question-and-answer format
Why are there refugees?	Educo.org	Amnesty International	Multiple causes, humanitarian context	Questions in headlines
Why are they considered refugees?	UNHCR	UNHCR	International legal framework	Same content as question 2
What are environmental refugees?	Wikipedia	Wikipedia	Specialised technical definition	Uses Wikipedia due to lack of sources
Where are refugees found?	UNRWA	UNHCR	Geographical and statistical data	Subtitles with keywords, structured format
Where did the wounded from the battle of Cosmini go as refugees?	NoticiasFides.com (2007)	Outdated personal blog	Limited historical information	Outdated news, keywords in text
Why Bosnian refugees	Wikipedia	Amnesty International (PDF)	Historical context of the conflict	Wikipedia as main source
Who receives Spanish refugees	Wikipedia	Wikipedia	Historical context of Republican exile	Wikipedia as the main source
What are Olympic refugees?	AI not activated Overview	Wikipedia	N/A	Lack of sufficient content

operation with the existence of a minimum volume of relevant content.

4.4 Analysis of AI image generation

In generative AI image generation via Google Gemini, the results show a clear tendency towards the use of predefined iconography. The images produced by Gemini's generative model reflect repetitive visual patterns: geographical maps for quantitative data, humanitarian symbols for legal definitions, and conflict contexts to explain the causes of displacement. Images of environmental refugees are characterised by an exaggerated dramatization of disasters, with little consistency with the textual reality, which highlights the influence of bias and the limitations of the visual repertoire in AI when there is a shortage of specific documentary sources.

There are difficulties in generating images of violent historical events, such as the Battle of Cosmini, where systems reject visual creation on grounds of ethical sensitivity and internal regulations, limiting the presence of this theme in the current digital imagination (see Table 2).

The set of ten Gemini-generated images is treated as a qualitative sample that illustrates recurring iconographic patterns; it is not intended to support independent quantitative conclusions.

4.5 Correlation between textual and visual quality

The results show a clear correlation between the availability of quality textual sources and the consistency of AI visual production. When information is abundant and well structured (e.g., "how many refugees are there in Spain"), the images generated are relevant and consistent; conversely, a scarcity of sources generates unrealistic or stereotypical images.

- High visual quality is achieved when there is abundant multimedia reference content (questions 1, 2, and 3).
- Poor visual quality coincides with gaps in specialised content (questions 5, 8, 9, and 10).
- Image generation failure occurs when the available content is problematic or violent (question 7).

4.6 Dominant visual representations

The images generated draw on established iconography in the collective imagination about refugees:

- Maps for quantitative queries.
- Symbols of protection (flags) for legal definitions.
- Conflict contexts for causes of displacement.
- Exaggerated disaster landscapes for environmental refugees.

4.7 Qualitative analysis of constructed imaginaries: dominant narratives in AI overview

Qualitative analysis of the nine activated AI Overviews reveals three major dominant narratives:

- Legal-institutional narrative: International definitions and frameworks, prioritising the humanitarian protection perspective

TABLE 2 Analysis of AI image generation.

Question	AI image generation	Image quality	Visual representation	Relationship with sources AI overview
How many refugees are there in Spain?	Yes	High	Statistical graphs, maps	Consistent with CEAR/ACCEM data
Who are refugees?	Yes	High	Diverse individuals, symbols of protection	Consistent with UNHCR definitions
Why are there refugees?	Yes	High	Conflict contexts, migration	Consistent with multiple causes
Why they are considered refugees	Yes	Medium	Legal frameworks, documentation	Consistent with legal framework
What are environmental refugees?	Yes (limited)	Low (unrealistic, exaggerated)	Extreme natural disasters	Disconnected from limited sources
Where are refugees found?	Yes	Medium	Global maps, refugee camps	Consistent with geographical data
Where did the wounded from the Battle of Cosmini seek refuge?	No (rejected due to violent content)	N/A	N/A	N/A
Why Bosnian refugees?	Yes	Media	Context Balkan War	Consistent with historical context
Who receives Spanish refugees	Yes	Media	Historical context Mexico-Spain	Consistent with history of exile
What are Olympic refugees?	Yes	Media	Athletes with the Olympic flag refugees	Consistent with Olympic information

(queries 2, 4): "A refugee is a person who, fearing persecution for reasons of race, religion, nationality. is outside their country and cannot return (UNHCR definition)" (Query 2: "Who are refugees?"). This framing positions refugees as passive subjects of international law.

- Humanitarian-causal narrative: Explanation of diverse causes (conflicts, persecution, disasters), dramatic and with a focus on vulnerability (queries 3, 5): "Refugees flee due to armed conflicts, political persecution, and natural disasters" (Query 3: "Why are there refugees?"). No mention of agency or structural violence.
- Statistical-territorial narrative: Quantitative and spatial data, reinforcing the understanding of the phenomenon as a manageable problem (queries 1, 6, 10): "Spain was hosting more than 211,000 refugees, mainly Ukrainians, and registered record numbers of asylum applications in 2024 (167,366), becoming the second EU country with the most applications (CEAR data)" (Query 1: "How many refugees are there in Spain?"). Refugees reduced to numbers and national borders.

These narratives constructed by AI obscure dimensions critical of the discourse on refugees:

- Refugee agency: Automated narratives tend to present refugees as passive subjects who only receive aid or protection, obscuring their ability to make decisions and exercise control over their own lives (queries 2, 3, 9).
- Diversity of experiences: Information synthesised by AI tends to homogenise the reality of refugees, omitting the plurality of trajectories, contexts and individual situations that characterise this group (queries 1, 8, 9).
- Critical perspectives: AI-generated approaches generally exclude critical or alternative voices, which prevents the questioning of dominant discourses and hinders access to analyses that problematise or nuance the situation of refugees.

The analysis reveals how AI Overviews implicitly construct boundaries between 'us' and 'them':

- Exceptional temporality: Refugees are associated with crises and extraordinary events, not with regular migratory flows (queries 3, 8, 9).
- Territorialisation: AI-generated narratives tend to spatially delimit the figure of the refugee, associating them with specific territories or borders and reinforcing the perception of geographical and symbolic separation between "us" and "them" (queries 1, 6).
- Institutional dependence: AI responses often present refugees as subjects dependent on the guardianship or assistance of official bodies, obscuring their autonomy and reinforcing an asymmetrical relationship with host institutions (queries 2, 4).

Finally, these images not only reproduce the figures of refugees themselves, but also a series of landscapes, contexts and expressions of enormous relevance. First, it should be noted that the landscapes generated by AI without a specific territorial context are truly apocalyptic, more typical of film sets than realistic conflict scenarios (not because the latter are less harsh, but because of the iconography and worldview used). Similarly, the expressions of the people are always harsh, with the family context with children predominating in almost all the images. Finally, it is worth highlighting the landscapes and visual constructions when the text mentions the Spanish context. For example, in the initial image, the refugees are in a landscape stereotypically belonging to southern Spain which, were it not for the presence of refugees, could be a promotional tourist image. Finally, in Figure 9,

where reference is made to the Spanish context, the image ceases to be dramatic and apocalyptic and becomes benevolent and even elegant.

5 Discussion and conclusions

Imaginaries about refugees are constructed through multiple mediations, including visual representations, textual narratives, and interpretive frameworks. These imaginaries constitute an emerging interdisciplinary field that examines how refugees imagine the world and how the world imagines them. Research has shown that dominant representations tend to oscillate between two main discourses: the threat discourse, which presents immigration as a challenge to security, and the humanitarian discourse, which emphasises the adverse conditions and suffering of migrants. These reductionist binary representations have far-reaching effects on the formation of public policy and social attitudes.

This study examines how Google's generative AI systems—specifically AI Overviews and Gemini—construct and generate representations of refugees through synthesized content generation in AI Overviews and image generation in Gemini. The results reveal that these generative systems tend to select and synthesize sources such as Wikipedia for specific queries, while UNHCR dominates in general queries. Significant gaps in AI content selection are identified for some high-volume searches on refugees, for example, on environmental refugees and specific historical events, highlighting how the scarcity of quality content directly influences AI's ability to generate coherent and non-stereotypical textual and visual representations.

This research emphasises the idea that digital inclusion and participation are key vectors for developing equitable communication environments. This is especially significant when the image-creating element is a collective in contexts of disability or vulnerability. If communication technologies must be designed with accessibility criteria in mind in order to encourage the participation of certain groups in the digital sphere (Keeley and Bernasconi, 2023; Wahl and Weiland, 2023), AI must ensure the development of meaningful and unbiased texts and images to promote the inclusion of migrant or refugee groups in the use of generative technologies. This element opens the door to a series of new research projects that evaluate the digital divide in the use of generative AIs among different social groups and how this affects first the collective imagination, then the communication ecosystems, finally and political decisions.

In this sense, we can find synergies in this geopolitical and communicative dimension of media governance, which is closely linked to the ability of governments to play a dual role (Dragomir, 2025). In this regard, it is necessary to develop new research that evaluates how the centralisation of power in generative AIs is affecting, or may affect in the future, the creation of discourses on refugees, what role states are playing in the regulation or deregulation of AIs, and how this affects the dynamics of power, informational control and symbolic exclusion. This fact may have enormous repercussions for the very foundation of Western democracy since, as Cano-Orón et al. (2024) points out, the public sphere is currently fragmented, polarised and subject to emotional manipulation. The promotion of biased images in systems with the potential to replace global communication processes may lead to a radical change in the immediate future of global governance. This process must be investigated in greater depth and from a more diverse perspective on the basis of this work, which analyses the creation of the image of refugees, one of the elements around which current political discourse in the West revolves. In this regard, we believe that this work provides a solid foundation for further comparative research on the imagery surrounding refugees in artificial intelligence platforms and traditional media.

Data availability statement

The original contributions presented in the study are included in the article/supplementary material, further inquiries can be directed to the corresponding author.

Author contributions

BM-R: Supervision, Visualization, Writing – review & editing, Investigation. AL: Conceptualization, Resources, Methodology, Funding acquisition, Writing – original draft.

Funding

The author(s) declared that financial support was not received for this work and/or its publication.

Conflict of interest

The author(s) declared that this work was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Generative AI statement

The author(s) declared that Generative AI was used in the creation of this manuscript. To generate the images, the prompt indicated in each figure created with Generative AI was entered. This same prompt was also used in Google to analyze the Overviews results generated by Gemini 2.5 in the search engine.

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