

## Robots in Brazilian Journalistic Organizations: Two Case Studies

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**Robôs nas organizações jornalísticas brasileiras: dois estudos de casos**

**Robots en organizaciones periodísticas brasileñas: dos estudios de caso**

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**Abstract:** Several journalistic organizations in Brazil use robots on social media or messaging applications. *Fátima*, for example, is a robot who works on WhatsApp and belongs to the Aos Fatos agency. *Elas no Congresso* is a robot that operates on Twitter and belongs to Revista AzMina, an independent journalism magazine focused on gender. Therefore, this article has the general objective of carrying out a preliminary study on the use of robots in journalism, focusing on *Fátima* and *Elas no Congresso*, two robots belonging to Brazilian journalistic organizations. Specific objectives: a) Describe the robots' profiles; b) Highlight the types of content published on the profiles; and c) Understand whether or not journalists are visible in the content. To achieve this article's objectives, we chose the case study (Yin, 2001; Gil, 2008). As main results, we found reflections on how, throughout history, journalistic organizations began to use robots in their processes and practices.

### **Keywords:**

Digital technologies and cultures, automation, algorithms, innovation, robots

**Resumo:** Diversas organizações jornalísticas no Brasil fazem uso de robôs em mídias sociais ou aplicativos de mensagens. A *Fátima*, por exemplo, é uma robô que atua no WhatsApp e pertence à agência Aos Fatos. Já a *Elas no Congresso* é uma robô que atua no Twitter e pertence à Revista

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AzMina, de jornalismo independente com foco em gênero. Logo, este artigo tem como objetivo geral realizar um estudo preliminar sobre o uso de robôs no jornalismo, com foco na Fátima e na Elas no Congresso, que são duas robôs que pertencem a organizações jornalísticas brasileiras. E como objetivos específicos: a) Descrever os perfis das robôs; b) Evidenciar os tipos de conteúdos publicados nos perfis e c) Compreender se há atuação visível ou não de jornalistas no conteúdo. Como método para alcançarmos os objetivos do presente artigo, elegemos o estudo de caso (Yin, 2001; Gil, 2008). Como principais resultados, encontramos reflexões sobre como, ao longo da história, organizações jornalísticas passaram a fazer uso de robôs em seus processos e práticas.

**Palavras-chave:**

Tecnologias e culturas digitais, automatização, algoritmos, inovação, robôs

**Resumen:** Varias organizaciones periodísticas de Brasil utilizan robots en las redes sociales o aplicaciones de mensajería. *Fátima*, por ejemplo, es una robot que trabaja por WhatsApp y pertenece a la agencia Aos Fatos. *Elas no Congresso* es un robot que opera en Twitter y pertenece a Revista AzMina, una revista de periodismo independiente con enfoque de género. Por tanto, este artículo tiene como objetivo general realizar un estudio preliminar sobre el uso de robots en el periodismo, centrándose en Fátima y Elas no Congresso, dos robots que pertenecen a organizaciones periodísticas brasileñas. Y como objetivos específicos: a) Describir los perfiles de los robots; b) Destacar los tipos de contenidos publicados en los perfiles y c) Entender si los periodistas son visibles o no en los contenidos. Como método para alcanzar los objetivos de este artículo, elegimos el estudio de caso (Yin, 2001; Gil, 2008). Como principales resultados encontramos reflexiones sobre cómo, a lo largo de la historia, las organizaciones periodísticas comenzaron a utilizar robots en sus procesos y prácticas.

**Palabras clave:**

Tecnologías y culturas digitales, automatización, algoritmos, innovación, robots

**1. Introduction**

In recent years, chatbots have become increasingly popular among individuals and businesses. Although it may seem like a recent phenomenon, history shows that the first

conversational robot model, *Eliza*, emerged in 1966. However, at that time, there was not as much digital data available as today, which might explain the new dimensions the phenomenon has recently gained.

With digital data, it is possible to create Artificial Intelligence (AI) algorithms and develop various types of robots operating on different platforms. For instance, *Fátima* and *Elas no Congresso* are robots that run on WhatsApp and Twitter, respectively. They belong to the agencies *Aos Fatos* and *AzMina*. In addition to these two journalistic companies, many others also embrace this type of innovation, either for audience interaction or for generating short texts.

Therefore, this article aims to conduct a preliminary study on using robots in journalism, focusing on *Fátima* and *Elas no Congresso*. The specific objectives include a) Describing the profiles of the robots, b) Highlighting the types of content published on their profiles, and c) Understanding whether there is visible journalist involvement in the content.

The choice of these robots for analysis was based on distinguishing factors. For example, *Fátima* is a robot that operates simultaneously on three different platforms, and it is the only one active on the WhatsApp messaging application. On the other hand, *Elas no Congresso* has its Twitter profile constantly updated. Additionally, a preliminary analysis identified that these two robots have distinct characteristics, allowing for the collection and analysis of different data.

As the method, we chose the case study approach, which will be detailed in the specific section. The study's main results indicate that the use of robots in journalism is a trend, especially on social media platforms or messaging apps, given society's constant use of these environments.

## 2. Description and Method

According to the *Aos Fatos* agency<sup>2</sup>, *Fátima*'s focus on WhatsApp was initially the COVID-19 pandemic, so it was launched on the messaging app in May 2020, precisely when the pandemic began. "*Fátima*'s main function in this initial launch stage is to assist the user in searching for fact-checks related to COVID-19 that have already been published by the *Aos Fatos* team" (Com foco na pandemia, Aos Fatos lança a robô checadora Fátima no WhatsApp,

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<sup>2</sup> Independent journalism agency, specialized in fact-checking content.

2020). However, the robot's activities expanded to other topics when the agency decided to celebrate its fifth anniversary in July 2020 by delivering fact-checks related to national issues.

*Elas no Congresso*, on the other hand, is a robot that operates on Twitter and was developed by the independent journalism magazine *AzMina*, focusing on women's issues. The robot uses "public data from the National Congress to monitor women's rights in the legislative power" (Belin, 2022). This initiative was "selected by the Google News Initiative in Latin America, a program promoting journalism in the digital age, from among more than 300 initiatives" (Entenda como fazemos o ranking, s.f.). According to the magazine, the need to monitor these women-related issues and make the monitoring results accessible to "society, the press, and organizations advocating for these topics and creating mobilization and advocacy strategies" (MeRepresenta, 2020) arose from the growth and competition for women-related agendas in the National Congress.

As for the methodology, we chose the case study approach (Yin, 2001; Gil, 2008) due to its effective contribution to understanding social phenomena within scientific research. "A case study is an empirical inquiry of a contemporary phenomenon within its real-life context when the boundaries between phenomenon and context are not evident" (Yin, 2001, p. 32). According to Yin (2001), there are four types of case studies: single (holistic or embedded) and multiple (holistic or embedded). For this research, the case study falls into the category of single holistic.

### **3. Results and Discussion**

In his work *History and Memory*, French historian Jacques Le Goff states that the development of history as a science has an inherent testimonial character rooted in narration and the reporting of facts, a typical characteristic of the journalistic profession. Thus, the author categorizes journalists as "professionals of memory" (Le Goff, 1990, p. 447) alongside historians, anthropologists, and sociologists, emphasizing the profession's imperative role in advocating for the democratization of memory.

While journalists and historians are classified by Le Goff (1990) under the same category, the two have differences and similarities. The main distinction between the two professions lies in time: historical analysis focuses on the past, while journalists analyze the present, developing what Le Goff (1990) called "immediate history." Despite this distinction,

Barbosa (2021) emphasizes that the present is a historical time, stating that "any study in communication is a study of historical nature" (Barbosa, 2021, p. 31).

Therefore, it was in the 1950s that Artificial Intelligence (AI) emerged in engineering and computer science. The goal was to enable systems to think and act similarly to humans. Authors such as Damasceno and Vasconcelos (2018) and Hammond (2015) argue that the term was first discussed in 1956 by researcher Stanford John McCarthy. During this time, the central mission of AI was introduced, aiming to discover how machines could solve problems previously limited to humans and simultaneously learn from their successes and mistakes to solve new problems independently. Hammond (2015) highlights the challenge of determining whether machines could achieve this.

As time passed and technology evolved, AI experiments improved. According to Hammond (2015), between the 1960s and the present day, there was a renaissance of AI, attributed to five main factors: increased computing power and international resources, growth of data for machines, focus on specific problems, knowledge of machine learning, and alternative reasoning models.

Most theorists writing about AI use the Turing Test as a reference to explain the origin of this field, which, although not recent, becomes more complex and presents new developments with technological advancements. According to Araújo (2019), the British scientist Alan Turing proposed the Test to determine whether machines could think. However, it faced a dilemma: "To say that something thinks, it must have consciousness, feelings, a mental life" (Araújo, 2019, pp. 14-15). Instead of asking whether machines think, the question shifted to whether machines can convincingly "imitate" human behavior in situations where people converse (Araújo, 2019, p. 15).

Based on Turing's assumptions, the first robot experiment (chatbot)<sup>3</sup> called *Eliza* was developed in 1966. Following this initial initiative, many other chatbots, such as *Elas no Congresso*, emerged over time.

It is noticeable that *Eliza*, *Fátima*, and *Elas no Congresso* are commonly portrayed as female characters. Regarding this relationship between the female gender and chatbots, Santos and Polivanov (2021) explain that the association between AI and the female gender is part of the social imagination, primarily influenced by cinema and science fiction. "They are

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<sup>3</sup> It is a type of conversational software developed to interact with humans on different platforms..

characterized - not coincidentally - as women: they have female voices and/or images as the standard for their systems, which are combined with their names and ways of responding" (Santos e Polivanov, 2021, p. 3). In the following section, we will explore how *Fátima* and *Elas no Congresso* became an innovation in journalism.

#### 4. *Fátima* Robot on WhatsApp

The *Fátima* robot operates on two distinct social media platforms and a messaging application, each with unique characteristics. We will specifically analyze the robot's activities on WhatsApp, as *Fátima* is the only one operating on this platform. According to the *Aos Fatos* agency, *Fátima*'s focus on WhatsApp was the Covid-19 pandemic, leading to its launch on the messaging app in May 2020, precisely when the pandemic began.

Initially, users need to have the WhatsApp application installed on a mobile device, such as a smartphone or tablet, and have an active account to access *Fátima*'s services. Besides direct access through the device, users can also use *Fátima*'s services via computer through WhatsApp Web if they prefer.

*Aos Fatos* utilizes strategies to promote the robot fact-checker's services and easily guides users to the specific conversation page with *Fátima* on WhatsApp. The agency employs advertising on Instagram and Facebook as part of its strategies. On *Aos Fatos*' official profiles on these social networks, there are posts about *Fátima*, accompanied by links that users can click to be automatically redirected to the conversation page within the app.

Another strategy involves placing a banner on the agency's primary website featuring an illustration of the robot and an inviting phrase encouraging users to learn about *Fátima* on WhatsApp. Clicking on this banner redirects the user to a page containing a brief description with information about the robot's name, its role, and its primary objective. The website also includes an animated video for users to learn more about the Artificial Intelligence technology used by the agency. This way, users can contact *Fátima*'s services and initiate a conversation.

When a user clicks on a link provided by the agency, they are automatically directed to WhatsApp, which opens the specific conversation page, displaying the robot's photo and the name "*Aos Fatos*" as a saved contact without the user having to do it manually. However, the user must add the agency's phone number to their contacts to keep the connection on the device and not just within the app. It's worth noting that despite the robot being named *Fátima*, the

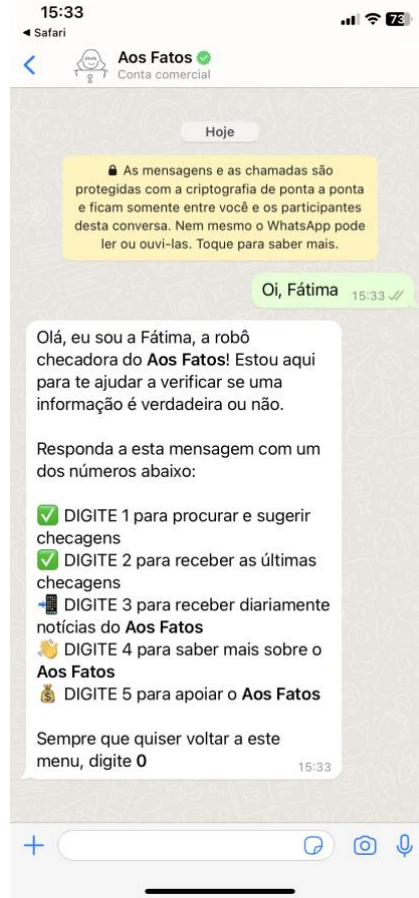
reference is automatically saved as *Aos Fatos*, with the verified page icon next to the name. Below the name is a message explaining that the commercial account is officially associated with the *Aos Fatos* agency. On the same page, the phrase "Hi, *Fátima*" is displayed, requiring the user's confirmation through the send button to start the conversation with the robot, as shown in Figure 1 below.



**Figure 1.** Initial Screen of the Conversation with *Fátima* the Robot. Source: WhatsApp screenshot (2023).

After this initial contact, the robot sends the user a message detailing all the services that can be obtained through the conversation on the application. The message resembles a conversation, as shown in Figure 2, displaying some icons specific to the social network and offering options with commands that the user can execute using numbering from 1 to 5. Number 1 is to search and suggest fact-checks from the agency's fact-check database based on a keyword; number 2 is to receive the three latest fact-checks from the agency's database, with a link redirecting to a specific page on the website containing more information about the respective

fact-checks; number 3 is to continue receiving fact-checks from the agency directly on WhatsApp, similar to a newsletter; number 4 is to obtain more information about *Aos Fatos*; and finally, number 5 is to contribute to the agency financially and also receive rewards and gifts.

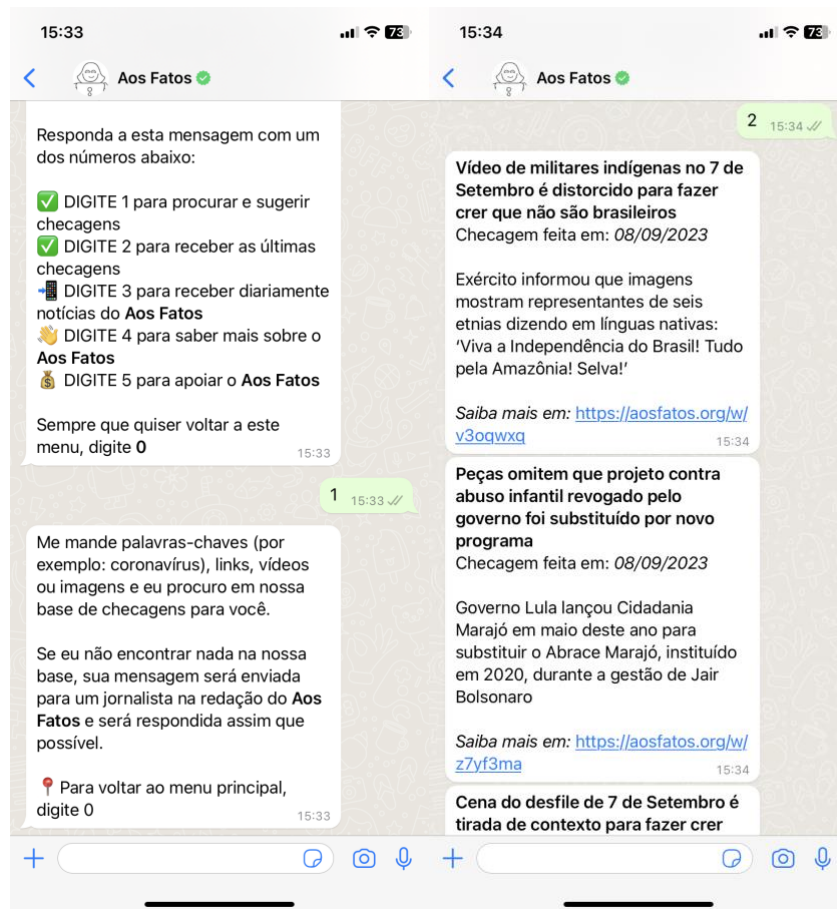


**Figure 2.** Conversation screen with the first message sent. Source: WhatsApp screenshot (2023).

Choosing option 1, the user needs to provide a keyword for the robot to offer a compilation of content fact-checked by *Aos Fatos* related to the indicated keyword. After sending the respective number, the robot responds with a message asking for the words to be searched in its fact-checking database. As an example, it suggests the word coronavirus. If the user sends explicitly this word, they receive a brief text followed by a link directing them to all fact-checks related to the word. In the case of the word "coronavirus," as suggested by the robot, the link received by the user is personalized and displayed as *aosfatos.org/coronavirus*. However, if the user sends another word not indicated by the robot, such as the keyword "elections," the user receives not a link but only a few fact-checks, typically three.



Very similar to what option 1 in the initial menu proposes, by choosing option 2, the user receives three sequential messages, each presenting a different fact-check. The messages include bold-titled headlines, the fact-check date, a brief description with preliminary information, and a link for interested readers to click and read the complete content. It is worth noting that *Aos Fatos* expanded the delivery of fact-checks on WhatsApp to include topics related to the national agenda, not just the pandemic. Initially, the robot focused on the messaging app solely to send content related to the Covid-19 pandemic. Therefore, when the user chooses to receive the three latest fact-checks sent by the robot, these can cover various subjects, as shown in Figure 3.



**Figure 3.** Screens with the options menu sent by the robot and the input of commands number 1 and 2. Source: WhatsApp screenshot (2023).

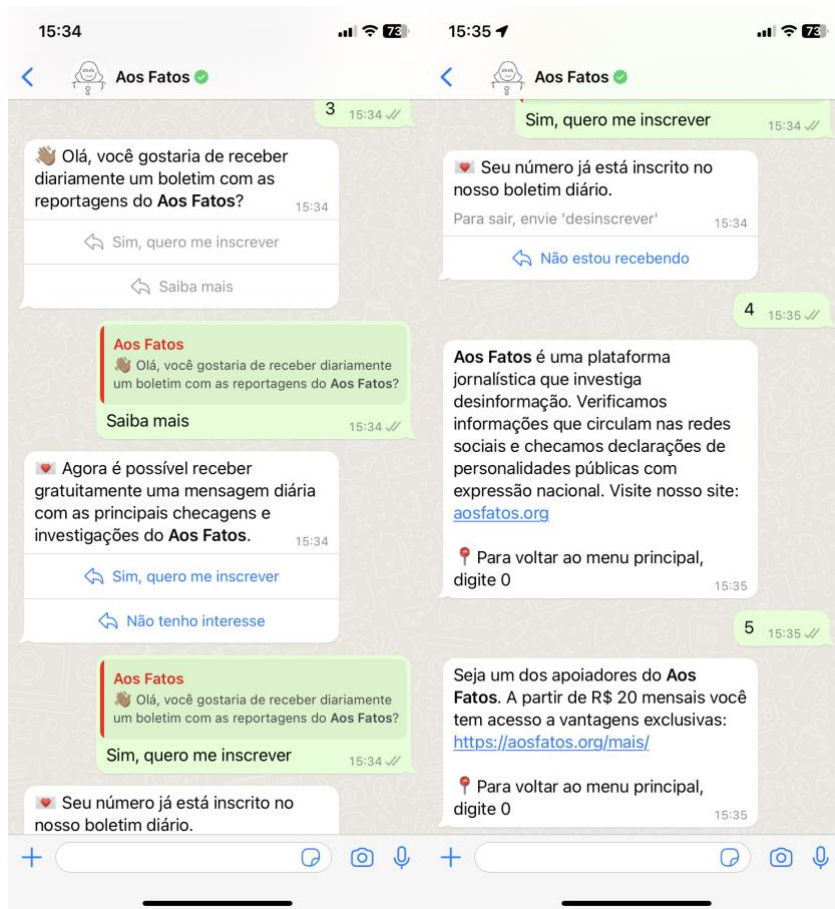
As can be observed in Figure 3 above, when sending the message resulting from command one from the menu, the robot explains that if it does not find anything in *Aos Fatos*' fact-checking database related to the keyword chosen by the user, the message will be sent to a journalist in *Aos Fatos*' newsroom, who will shortly send the response back to the user. In this

context, we can observe the social and mediating role of the journalist, as, despite all the technology used to build and maintain a robot like *Fátima*, it is limited to a specific database and therefore relies on initial programming to function. It is not like a journalist, who, in addition to being human, is a professional with specific qualifications to mediate between the public and technology in social reality reconstruction.

In option 3, the robot sends a brief message asking the user if they want to receive a daily bulletin with the agency's reports. Along with this question, there is a poll with two responses the user must choose: "Yes, I want to subscribe" or "Learn more." If the user selects the first response, they receive the following message from the robot: "Done! Soon, you will receive our daily bulletin. To return to the main menu, type 0." But if the user chooses the second response, the message is: "It is now possible to receive a free daily message with *Aos Fatos'* main fact-checks and investigations."

Option 4 presents a brief text describing the agency, portrayed as a fact-checking website based in Rio de Janeiro. Additionally, the message informs about the agency's function of verifying information present in statements made by nationally prominent politicians and authorities to determine if they are speaking the truth. Immediately after this information, there is a link for the user to obtain more details about the agency, if desired.

Upon entering 5, the last number on the menu offered by the *Fátima* robot, the user receives a short message highlighting that if they wish to contribute to the agency, starting from R\$ 20.00 per month, they can access exclusive content and gifts. Clicking on the link with the message directs the user to view more details on becoming one of *Aos Fatos'* supporters. As there are no further options beyond number 5, it is up to the user to decide the next step in the conversation with *Fátima*. It is important to note that the spelling of "*Aos Fatos*" is bolded every time the term appears in the messages, as are the titles of the fact-checks presented during the conversations. Another detail in all messages the robot sends is the option to return to the main menu, which can be triggered by the user typing 0 (Figure 4).



**Figure 4.** Screens with the robot's messages upon entering commands 3 and 4. Source: WhatsApp screenshot (2023).

It is possible that, just with the content of the messages sent by the robot, users may feel informed about the respective subjects, as the primary information is contained within the text of the messages themselves. However, by clicking on the link, the user is directed to a page on the agency's website containing more in-depth content in the form of news articles or reports, also presenting, in total, the piece of misinformation overlaid with an identification label.

Regarding the audiovisual resources that materialize the information fact-checked by the agency, such as videos, in many instances, they can be played within the website's page and watched in full. In other words, it is up to the user to decide whether they want to consume more in-depth content or if they are satisfied only with the information sent by the robot on WhatsApp.

Since *Fátima* is a robot created by a fact-checking agency, its focus also revolves around the same goal, with functionalities that aid in the fight against misinformation. An example of the format used to act in this regard is the agency's news bulletin, a kind of newsletter that users

automatically start receiving on WhatsApp every day until they decide they no longer want to receive the information.

During testing, we did not receive a response from the robot when sending voice messages, and we could not make calls as the call was not completed. However, *Fátima* demonstrated the ability to interact with links and images sent by the user.

We sent her a link from the *Superinteressante* magazine website, owned by *Editora Abril*, with content about what to eat after a workout.<sup>4</sup> Immediately, the robot responded with a message stating that the link was from a professional journalistic site. It also suggested that if the user had doubts about the link's authenticity, they should contact the editorial team to alert them.

We emphasize that the excess of rumors, out-of-context, or false information is a reality in the post-truth era.<sup>5</sup> Tools that help journalism democratize fact-checked and in-depth knowledge are essential to ensure that content fact-checking services reach a considerable number of people.

## 5. The *Elas no Congresso* Robot on Twitter

The *Elas no Congresso* robot's profile on Twitter, as seen in Figure 5, had 12,900 tweets and 5,423 followers from January 2018 (when the profile was launched) until June 16, 2022, the period during which this analysis was conducted. However, on the official *Elas no Congresso* website, the information about the launch date of the robot's Twitter profile dates back to March 8, 2020. "The project's first stage was launched on March 8, 2020, when the *@elasnocongresso* robot went live on Twitter. With the robot, anyone can follow the daily proceedings of gender-related bills on the *Elas no Congresso* Twitter account" (Entenda como fazemos o ranking, s.f.).

Therefore, there is a discrepancy between the magazine's information and Twitter's about the date the robot was introduced to the digital social network. This discrepancy can be justified because it is possible to create a profile on social media and only start updating it later. One hypothesis about what might have happened with the robot's profile is that it was built in 2018 and updated only in 2020. However, when researching the date of the first tweet posted on the

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<sup>4</sup> Available at: <https://super.abril.com.br/saude/depois-do-treino-voce-pode-comer-o-que-quiser/amp/>. Accessed on: June 22, 2022.

<sup>5</sup> A terminology created to classify this era in which the concept of truth is more associated with popular beliefs and people's emotions.

profile, we found it was May 17, 2022. Therefore, we could not find more information to substantiate the actual launch date of the robot's first tweet.

The robot's profile picture on Twitter contains the official *Elas no Congresso* logo, following a visual identity that can be observed on all platforms used by Revista *AzMina* to promote the *Elas no Congresso* project, such as the official website, for example, containing the same fonts, typography, and colors. The profile picture also includes an illustration of the National Congress of Brazil, composed of the Chamber of Deputies and the Federal Senate, further justifying the theme addressed by the robot in its activities.



**Figure 5.** *Elas no Congresso* Robot's Twitter Profile Screen. Source: Reproduction from Twitter (2023)

The cover photo is also an illustration formed by a montage of various female faces with different shapes and characteristics, creating a sense of identification among different audiences, especially women. Women might feel even more represented because the robot clarifies that the profile is diverse and for everyone. Although it is a profile that deals with content and issues related to women's rights, it is open to any audience interested in following and keeping up with *Elas no Congresso's* work.

In the cover art, all the faces are smiling, providing a positive view of the robot's profile. Even though not all the news may be positive concerning women's issues, the smiling faces in the illustration convey a sense of hope and strength, portraying women as empowered

individuals. As mentioned earlier, even though the profile is open to anyone interested, *AzMina's* journalism focuses on gender issues.

The colors used in the cover composition and the profile picture follow the same visual identity, featuring shades of lilac, blue, green, and pink. These colors are consistent with all the graphic elements of the *Elas no Congresso* project. On Twitter, the robot's profile has the social media verification symbol, represented by a blue badge next to the name. An account must be authentic, notable, and active to receive this verification mark. Any account can request this badge, but only those meeting the specified criteria will receive it, granted by Twitter.

In the robot's Twitter profile's initial section, the message in the bio space explains who she is. "I am a robot created by @revistaAzMina to monitor the progress of propositions related to women's rights in Congress. Subscribe to the newsletter!" (*Elas no Congresso*, s.f.). In this message, the @ for Revista *AzMina* is clickable, allowing users to quickly navigate to the magazine's profile on the social network. The robot's Twitter and *AzMina* profiles are distinct, each serving different purposes. *Elas no Congresso* operates independently of *AzMina's* Twitter profile and vice versa.

However, no visible tool on the magazine's profile would facilitate the reverse action, directing users to the robot's profile quickly. Such a feature could increase awareness about *Elas no Congresso* and make it easier for users, especially those unfamiliar with the robot or the magazine, to have their first contact with *AzMina* through Twitter.

Another detail in the bio text provides information related to the robot, explaining who she is and what she does. This information is crucial to emphasize the transparency of the robot's creators and its work proposal. It also debunks the social imaginary often promoted by cinema, where robots are primarily depicted as humanoid figures.

Additionally, the biography text invites the audience to subscribe to the magazine's newsletter. This action offers the audience more tailored and personalized content beyond Twitter messages. It provides in-depth analysis and exclusive context, "allowing readers to understand what has happened and what lies behind it, who is involved, and how they can take action" (ASSINE NOSSA NEWSLETTER, s.f.).

Upon subscribing to the newsletter on the magazine's website, users automatically receive a welcome email. One striking detail in the email is the information about the robot, highlighted in the message, as shown in the excerpt below (Figure 6). The message is signed by

the *Elas no Congresso* project's founder and coordinator, Bárbara Libório. In this initial email, the robot's @ is clickable, functioning as a link and directing users to the robot's Twitter profile.

**Toda segunda-feira, você vai receber no seu e-mail nossa news** com um resumo do que aconteceu na semana anterior envolvendo questões de gênero. **Você também pode acompanhar diariamente as tramitações no Twitter: nossa robô** [@elasnocongresso](#) posta tudo em tempo real e fica feliz sempre que um novo seguidor segue o trabalho por lá também.

**Figure 6.** Screen of a snippet from the email received upon subscribing to the newsletter. Source: Reproduction from Gmail (2023).

A few hours after receiving the welcome email, the newsletter was sent, signed by the same person, the creator of the *Elas no Congresso* project.

The *Elas no Congresso* robot is part of a project of the same name. Therefore, in the biography of its Twitter profile, there is a link that redirects the user to the project's website, where in-depth and detailed information regarding women's rights is presented, using multimedia and audiovisual resources, such as infographics with details on how each congresswoman and senator has been working on laws to guarantee these rights. In this sense, we can perceive that there is work done by a team of journalism professionals to update the project's website, offering other types of journalistic products in addition to the messages posted on the robot's profile, such as in-depth reports, not limiting the audience to the information posted only on Twitter.

Although it is a significant number compared to other robots' profiles that operate on the same network, the number of users who follow the robot's profile on Twitter is small compared to the number of users on the digital social network.<sup>6</sup> The difference exceeds 37,000 compared to the number of followers of the *AzMina* magazine account, which currently stands at about 42,800. However, some strategies can be devised for the robot's profile to reach more people and grow, thereby increasing the number of audiences receiving the robot's content on Twitter. One of these strategies could be a greater publicization of the work of *Elas no Congresso* and how it is possible to stay informed about women's rights on Twitter, especially in this period of high dissemination of rumors false or out-of-context information. Considering that social media

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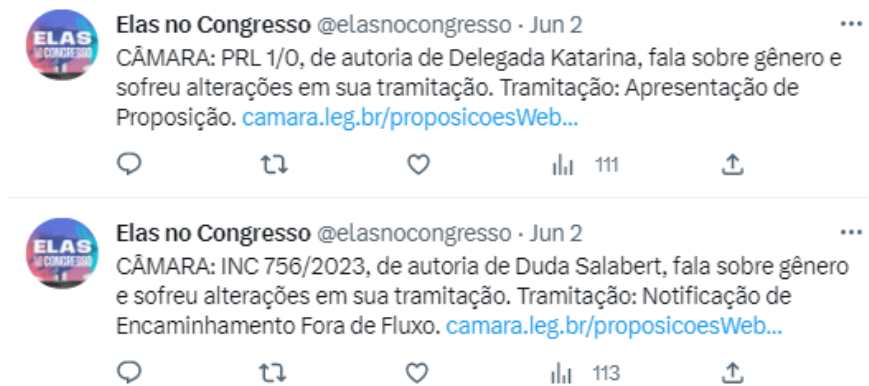
<sup>6</sup> The social media platform Twitter has approximately 211 million active users, according to a report released by the company itself on October 26, 2021. Available at: [https://s22.q4cdn.com/826641620/files/doc\\_financials/2021/q3/Final-Q3'21-Shareholder-letter.pdf](https://s22.q4cdn.com/826641620/files/doc_financials/2021/q3/Final-Q3'21-Shareholder-letter.pdf). Accessed on: April 2, 2022.



platforms are favorable spaces for spreading misinformation, being present in these environments and offering users authentic content about essential topics contributes to increased literacy<sup>7</sup>, media education, and the fight against misinformation.

Therefore, to better analyze the robot's profile and its performance on Twitter, on June 2, 2023, we took a screenshot of the profile to study the most recent tweets to identify the main aspects and characteristics. Soon, we noticed that the most recent messages displayed on the profile were from the same day as our research, on June 2, 2023. The contents of the messages were related to a rapporteur's opinion and an appointment (Figure 7).

It can be observed that, in both tweets, the information is presented as a kind of status regarding the progress of the rapporteur's opinion and the appointment. The text profiles are the same, starting with identifying the origin of each proposal, which in this case is in the Chamber of Deputies. After identifying the source, the process acronym is presented: PRL for Rapporteur's Opinion and INC for Appointment. Still, in older tweets, there are also PL for Bill REQ for Request, among others. After the acronym, we have the process number and the subsequent information. Specifically, in the case of these three messages, the author's name and what the proposal is about the status, and the situation are presented. After this, the message ends without multimedia resources or a link directing the user to another environment.



**Figure 7.** Screenshot of the most recent tweets on the robot's profile. Source: Twitter  
Reproduction (2023).

On Twitter, a tab contains messages containing media elements such as videos, photos, etc., stored. In the case of the *Elas no Congresso* robot's profile, the most recent tweet containing these elements dates back to 2020 and consists of a GIF, a kind of animated image. It was used

<sup>7</sup> It is the process of learning, that is, people's ability to read, write, and interpret.



to humorously illustrate that the robot had won an award for data journalism in the innovation category. From 2020 until June 2023, there were no more updates in the media elements tab during this analysis. Before the GIF in Figure 8, you can see about 20 tweets with images and other elements on the robot's profile.



**Figure 8.** Screenshot of the most recent tweets on the robot's profile. Source: Twitter Reproduction (2023).

Another tab on Twitter is called "likes." In this tab, you can find all the tweets that the robot's profile has liked. Therefore, even without knowing that the robot made this type of interaction – considering there would need to be specific programming for the robot to do this on its own, as it is a different task from what it usually does, which is sending messages with information about women's issues in the National Congress – it is possible to perceive that the robot's profile is interactive. Hence, the robot's profile interacts with users, not just by updating messages. As seen in Figure 9, in the list of messages liked by the robot, the most recent liked message consists of mentions made about her Twitter profile.



**Figure 9.** Screen of messages "liked" by the robot's profile on Twitter. Source: Twitter Reproduction (2023).

## 6. Conclusions

Revisiting history and inferring reflections about events are possible through memory and journalism. Journalists play a fundamental role in mediating the process of social reality reconstruction.

To contribute to this process, using robots in journalism has become a trend that more journalistic organizations should incorporate into their routine. Considering these systems were developed to solve problems independently, with little or no human intervention, this becomes viable in this era of wide data availability.

We noticed that on WhatsApp, the robot *Fátima* responds promptly and takes a few seconds to interact with the user. During our tests, the messages sent in response to fact-check requests almost always contained a short text with the primary information fact-checked by the agency. They also included a link that always directed to the agency's website, that is, to its database, which contained more in-depth and well-worked material on the topics.

We noticed that on Twitter, the robot *Elas no Congresso* limits itself to particular databases, leading to the repetition of the same type of content, only updating the information. Therefore, this may not be as appealing to a very active user on social media after a while.

With the development of this article, we also realized the importance of having a journalist constantly monitoring the robot's activities and building an ecosystem where the professional can work alongside the robot. That is, even though the profile is specific to the robot, it does not prevent the human journalist from updating the same profile with other types of attractive content to the public. This partnership between the robot and the human journalist does not happen regularly. If it did, there would be an offering of content with different patterns on Twitter, which could reach audiences with diverse interests.

Regarding the relationship between the female gender and chatbots, in the case of *Fátima* and *Elas no Congresso*, we noticed that the characters create a connection with their audience. It's a kind of representation.

Finally, we believe that the objectives of the article have been achieved, although they are far from concluding this discussion. As a suggestion for further research, we recommend studying other robots that can contribute to the academic environment and benefit journalistic work and society.

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