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# Podcast and (possible) algorithmic discrimination. A legal approach

ABSTRACT: The essay explores the impact of algorithms and artificial intelligence in the podcast industry, focusing on the risks of algorithmic discrimination. It examines the main functionalities of algorithms on podcast platforms, including recommendation systems and the selection of advertising messages. The analysis highlights how these systems can marginalise minority voices or non-mainstream content, affecting cultural diversity, informational pluralism, and economic opportunities. Furthermore, the essay discusses the role of generative AI in the automated creation of podcasts, raising legal questions about personality rights and transparency for listeners. A legal analysis of marginalisation practices is conducted considering the principle of equality under European Union law, alongside an exploration of extra-legal strategies to promote inclusivity and diversity in podcasts.

KEYWORDS: podcast platforms; podcast algorithm; machine learning: discrimination; eu law; principle of equality

#### Algorithms and podcast platforms

Even the creation and dissemination of podcasts face the great possibilities offered by new artificial intelligence tools based on deterministic algorithms and machine learning, taking on different forms.

With regard to the distribution of podcasts through podcast platforms, the first thing that comes to mind is the recommendation algorithms present on all such platforms. These are computational systems designed and used to suggest podcasts of (presumed) interest to the platform's users, who are duly profiled for this purpose. In this way, the platform seeks to further retain users to itself and to the podcasts it offers (thereby increasing its attractiveness to advertisers and investors in advertising resources).

In this context, there are various types of recommendation algorithms, ranging from the simplest to the most complex:

- a) *Based Filtering Systems*, which are based on the interactions and preferences of other users with similar tastes;
- b) *Content-Based Filtering Systems*, which use the characteristics of content already appreciated by the user such as descriptions, tags, or genre to make recommendations;

- c) *Hybrid Recommendation Systems*, which combine the two aforementioned approaches;
- d) *Content-Aware Systems*, which consider context, such as time, geographic location, the device used, or other metadata;
- e) *Deep Learning Systems*, which employ neural networks and machine learning techniques to analyse large datasets and develop complex recommendation models.

The second primary use of algorithms on podcast platforms concerns the selection of advertising messages related to potential goods or services to be displayed while the user engages with the platform and listens to podcasts.

In addition to these two main algorithmic functionalities on podcast platforms, there are, of course, the algorithms (along with other technologies) used by the platforms to collect and analyse user data for various broader purposes, not least to fuel the thriving data market (Groza & Botero Arcila, 2024).

Regarding podcast production, algorithms also come into play in the creation of podcasts through the algorithmic automation of content production or the use of content generated via machine learning algorithms.

#### Algorithmic selection practices on podcast platforms and in podcasts

Algorithmic selection practices on podcast platforms and within podcasts can intervene at various stages, depending on the areas in which algorithmic decision-making operates (Zuddas, 2020: 4).

As is well known, deterministic algorithms, on the one hand, embed the choices and potential biases that their human creators may – consciously or unconsciously – introduce into the algorithm's functioning. On the other hand, in a less transparent and potentially more dangerous way, machine learning algorithms learn from patterns, relationships, or perceived regularities which they detect in past user behaviour, inferred from their training dataset. These algorithms unavoidably mirror the choices and the existing biases embedded in the data provided to them (Resta, 2019: 217; Zuddas, 2020; Daelman, 2021: 137; Columbro, 2024).

Thus, regarding recommendation algorithms, whether simplistic or sophisticated, and even assuming the completeness of the algorithm's training dataset, cases of marginalisation of minority voices may arise. Podcasts and content created by underrepresented groups (e.g., women, ethnic minorities, LGBTQ+ communities) may be less likely to be recommended, particularly if they fail to garner sufficient initial engagement and/or do not employ language or tags aligned with dominant trends. This reflects the "rich get richer" effect, whereby already popular podcasts are further promoted, relegating lesser-known ones to minimal visibility.

Moreover, it is plausible – considering the costs associated with creating sufficiently large datasets – that the collected data might not adequately represent all social groups or cultural preferences, leading to the same marginalisation effects mentioned above.

The language employed in a podcast can also be a factor of algorithmic marginalisation. Algorithms may prioritise content in dominant or widely used languages within the podcast industry (which should also be analysed based on the target market), disadvantaging podcasts in minority languages. However, this specific issue can be addressed through the use of selection filters typically available on most podcast platforms.

Another concern is the potential for moderation algorithms to mistakenly classify legitimate topics as inappropriate or controversial, thereby excluding them from recommendations.

It is worth emphasising that the marginalisation of certain podcasts – because, as stated, they represent minority voices – inevitably results in reduced capacity for these podcasts to attract advertising revenue and secure the resources needed to improve their content. This, in turn, may drive away top professionals, further hindering the growth and quality of these podcasts.

From the perspective of podcast listeners, such marginalisation practices limit their choices and reinforce their confinement within an entertainment or cognitive bubble, which solidifies through repeated listening patterns. More broadly, these practices tend to polarise listeners towards the most popular podcasts (potentially reinforcing ideological bubbles and extremist opinions), reducing cultural diversity and informational pluralism.

#### Automated podcasts

The pervasiveness of algorithms likely finds its most profound expression in the podcast industry with so-called "automated podcasts", where generative AI is revolutionising the way podcasts are produced.

Generative AI now plays a significant role in podcasts through voice generation, scriptwriting, and automated editing. With voice generation, AI can create highly realistic voices, almost perfectly imitating real individuals (living or deceased) or generating entirely new voices. This capability allows for the creation of podcasts with virtual hosts and fictional protagonists.

In terms of scriptwriting, the advances made by AI tools are evident on a daily basis, producing increasingly coherent and engaging texts on virtually any topic. Finally, post-production activities – such as adding sound effects or creating background music – long been at the forefront of automation, are now experiencing a disruptive evolutionary leap.

Examples of the aforementioned developments can be observed in the *Joe Rogan AI Experience* (a podcast where AI clones Joe Rogan's voice to create fictional conversations with other famous guests, whose voices are also AI-generated) and *AI Talks* (a podcast entirely created by AI, from voice generation to scriptwriting).

A noteworthy example is the disclaimer included in an episode of the *Joe Rogan AI Experience*, in which the AI-generated guest is none other than Sam

Altman (CEO of OpenAI). Considering the unsuccessful attempt of overwhelming consumers with excessive information about their abstract rights, it is legitimate to question the effectiveness of such disclaimers, particularly if automated podcast production were to surpass podcasts created by real people.

This channel depicts fictional podcasts between Joe Rogan and guests he hasn't had on the show, with all content generated using AI language models. The ideas and opinions expressed in the podcast are not reflective of the thoughts of Joe Rogan or his guests. The content portrayed in this video is purely for entertainment purposes and should not be taken as a representation of the actual beliefs or attitudes of the individuals portrayed. The use of AI technology to generate this content is solely intended as an exploration of the capabilities of language models and should not be misconstrued as a genuine conversation between the individuals depicted. Any resemblance to actual events, individuals, or entities is purely coincidental. Viewers are encouraged to approach this content with a critical and discerning eye and to understand that the views expressed in this video are not intended to reflect those of the individuals portrayed or of any affiliated organizations or entities.

Among the numerous controversial issues that podcast automation may raise (to mention just one, which I will not address here, there is the possibility that automation could facilitate the spread of disinformation and the creation of deepfake content), it should be emphasised that this automation can easily exacerbate – if not responsibly monitored – the perpetuation of biases derived from the historical data on which the specific AI has been trained. This can lead to the reinforcement of stereotypes and discrimination, excluding the perspectives of marginalised groups and minority voices.

Furthermore, it goes without saying that – aiming for the largest possible audience – podcast automation will tend to exclude the production and dissemination of podcasts that address less mainstream social or cultural topics. Labelled as «niche», such topics are increasingly ignored by algorithms, leading to the creation of a «single thought» (Han, 2015; Han, 2016).

# *Podcast platforms, podcasts, and the discriminatory significance of marginalisation practices*

From a general perspective, discrimination manifests as differential treatment not justified by differences in initial situations (Lochak, 1987). In the legal context relevant here, discrimination between individuals becomes significant when it constitutes a violation of the principle of equality as recognized by primary legal sources (constitutions, international treaties) or secondary sources (laws and regulations) at both the international level and (at least formally) in nearly all legal systems worldwide (Barbera & Borrelli, 2022; Bell, 2022).

For example, in the legal systems of states participating in the European integration process, discriminatory practices in the workplace are prohibited – not only based on constitutional sources (Article 2 of the Treaty on European Union, Articles 19 and 157 of the Treaty on the Functioning of the European Union, Articles 21 and 23 of the Charter of Fundamental Rights of the European Union) – but also through the principle of equality and equal treatment among workers established in Directive 2000/43/EC, which implements the principle of equal treatment regardless of race and ethnic origin, and Directive 2000/78/EC, which provides a general framework for equal treatment in employment and working conditions, as amended over time and implemented through national legislation (Peruzzi, 2021).

Thus, it is necessary to ask whether the above-mentioned forms of marginalisation in the podcast sector could constitute, at least within the multilayered European legal system built through the integration process and the protection of fundamental rights it ensures, an unlawful violation of the principle of equality. This, in turn, might prompt legal responses such as bans or positive actions to prohibit and counteract such practices.

In general (although, as seen above, the European legislator has also intervened sectorally at the level of secondary legislation), marginalisation practices generated by algorithms could be legally relevant under the prohibition of discrimination expressed in Article 2 of the Treaty on European Union and Article 21 of the Charter of Fundamental Rights of the European Union if the violation of the principle of equality results in an illegitimate disparity in the enjoyment of a right recognized by European or national law.

In other words, a marginalisation practice becomes discriminatory if, in the enjoyment of a specific right, a particular characteristic (e.g., sex, sexual orientation, race, skin colour, ethnic or social origin, genetic characteristics, language, religion, personal beliefs, political opinions, membership in a national minority, wealth, birth, nationality, disability, age, or other characteristics) of the potential beneficiary is considered (directly or indirectly) to treat that individual less favourably (e.g., by excluding or limiting them in exercising the right) than others in a comparable situation without the discriminating characteristic.

Under a strictly legal perspective, the issue then becomes whether the abovementioned marginalisation practices in the podcast sector violate the principle of equality established by fundamental European norms by discriminating against a right recognized by European or national law.

It is necessary to specifically examine individual marginalisation practices. This is the goal of the following analysis.

Regarding the marginalisation of so-called "minority voices" (where minor-

ity status depends on non-mainstream content or content primarily appealing to minorities) by recommendation algorithms, it must be acknowledged that no specific right exists for particular content or minority groups to be necessarily included in the recommendations provided by podcast platforms. This is also due to the fundamental right of the platform to freely conduct its business, explicitly recognized by Article 16 of the Charter of Fundamental Rights of the European Union.

Conversely, there does not appear to be any obligation – at either the European or national level – to include certain content (whether minority-related or not) in platform recommendations, as no legal provisions have been identified that mandate the presence of such content in media outlets.

Where the marginalisation of a theme or social group by the podcast platform's algorithm results from the incompleteness of the training or updating dataset, unless the dataset was deliberately designed to exclude certain themes or references to social groups, the algorithm creator or provider does not appear to have specific legal obligations regarding the dataset's completeness. Nonetheless, from a commercial perspective, a recommendation system trained and updated with the most comprehensive dataset possible represents a clear competitive advantage.

A different case arises if the dataset contains erroneous, outdated, or incomplete personal data, in which case rights recognized under Articles 16 (right to rectification), 17 (right to erasure or the «right to be forgotten»), and 18 (right to restriction of processing) of the General Data Protection Regulation (GDPR) may apply. If such deficiencies lead the algorithm or AI to suggest (or not suggest) a certain podcast, thereby violating a right under the GDPR, it is reasonable for the affected party to request and obtain compliance with their rights, potentially requiring adjustments to the recommendation algorithm or its outputs.

If the marginalisation of a podcast or specific content involves restricting the availability of content in a particular language (due to deliberate instructions or the AI's machine learning choices), specific legal obligations protecting linguistic minorities may come into play at the European or national level. This requires a careful examination of whether the deterministic or machine learning algorithm complies with relevant legal provisions.

In the Italian legal system (and similarly in other European systems), for instance, Law No. 482 of 1999 (*Provisions on the Protection of Historical Linguistic Minorities*) includes Article 12, which addresses the protection of linguistic minorities in public broadcasting and mass communication systems. Additionally, the European Charter for Regional or Minority Languages (Council of Europe, 1992), open for signature by all European states, dedicates Article 11 to the protection and promotion of such languages in mass media.

Finally, it would be worthwhile to explore whether the aforementioned marginalisation practices comply with the general (European and national) regulatory framework for the audiovisual media services market. *The Audiovi*-

*sual Media Services Directive* (Directive (EU) 2018/1808), for example, states in Article 6 that, while respecting and protecting human dignity, Member States must ensure that audiovisual media services under their jurisdiction do not incite violence or hatred against groups or individuals based on the grounds listed in Article 21 of the Charter.

#### Podcast automation and the protection of individual rights

Podcast automation, in addition to the issues of marginalisation and possible discrimination already discussed, raises further legal questions concerning personality rights and the fairness of the relationship between podcast producers and listeners.

A key question arises: to what extent is lawful the imitation of a real person's voice (virtually perfect, and in any case capable of convincing the average listener that they are hearing the "real" voice of that individual) for the purpose of producing podcast content?

It must be considered that each individual's voice (in its main characteristics: frequency, intensity, timbre, and resonance) represents an expression of their identity and personality. From a legal perspective, this reasonably leads to the conclusion that a voice deserves the same protection as other personality rights (such as name and image) and cannot be used by others – except in cases permitted by law (e.g., in the exercise of journalistic rights) – without or against the consent of the person identified with that voice.

In the Italian legal system, while there is no explicit «right to one's voice», case law has extended protection to what are known as evocative elements of a person's personality or artistic activity, such as a singer's voice and its distinctive timbre (Tribunale di Roma, May 12, 1993, *Branduardi case*).

In any case, an unlawful use of a voice requires that the allegedly unlawfully used voice be recognisable and attributable to a specific person. In other words, there must be a deliberate intention and corresponding action to credibly simulate the voice of a real, identifiable individual.

It will be interesting to monitor the developments in the legal actions brought in June 2024 by the Recording Industry Association of America (RIAA) against companies Suno and Udio, which demand the removal of AIgenerated songs from music streaming platforms that "replicate" the voices of famous artists whose works are protected by copyright (RIAA, 2024).

Still within the US System, I must mention the so-called Elvis Act (Ensuring Likeness Voice and Image Security Act) signed into law by Tennessee Governor Bill Lee on March 21, 2024 (effective July 1, 2024). The Tennessee state legislation establishes that every person has the right to control the use of their voice (as well as their image) across all means of communication and in any form. The law clarifies that commercial exploitation of image includes the availability of audio recordings or audiovisual works in which an individual's voice is identifiable. Furthermore, the law introduces the provision that a person can be held liable for the unauthorized use of an individual's voice or for the distribution of technologies primarily used to produce an individual's voice without authorization.

The second issue concerns the listener's interest in knowing whether the podcast they are listening to was produced (wholly or partially) using generative AI systems. The reasons for this interest may vary: from a quest for "human authenticity" to concerns about the reliability of machine learning-based content, considerations of labour ethics, or a desire for full transparency regarding the consumed product.

This concern has led, in the European context, to specific provisions in the so-called *AI Act* (Regulation (EU) 2024/1689 of June 13, 2024, establishing harmonised rules on artificial intelligence) (ODI, 2024).

In particular, Article 50 of the *AI Act* (in force from August 2, 2026) regulates transparency obligations for providers and deployers (i.e., individuals or entities using an AI system under their authority, except when such use occurs during personal, non-professional activities) of certain AI systems, establishing the following requirements.

- 1. Providers shall ensure that AI systems intended to interact directly with natural persons are designed and developed in such a way that the natural persons concerned are informed that they are interacting with an AI system, unless this is obvious from the point of view of a natural person who is reasonably well-informed, observant and circumspect, taking into account the circumstances and the context of use. This obligation shall not apply to AI systems authorised by law to detect, prevent, investigate or prosecute criminal offences, subject to appropriate safeguards for the rights and freedoms of third parties, unless those systems are available for the public to report a criminal offence.
- 2. Providers of AI systems, including general-purpose AI systems, generating synthetic audio, image, video or text content, shall ensure that the outputs of the AI system are marked in a machine-readable format and detectable as artificially generated or manipulated. Providers shall ensure their technical solutions are effective, interoperable, robust and reliable as far as this is technically feasible, taking into account the specificities and limitations of various types of content, the costs of implementation and the generally acknowledged state of the art, as may be reflected in relevant technical standards. This obligation shall not apply to the extent that the AI systems perform an assistive function for standard editing or do not substantially alter the input data provided by the deployer or the semantics

thereof, or where authorised by law to detect, prevent, investigate or prosecute criminal offences.

- 3. Deployers of an emotion recognition system or a biometric categorisation system shall inform the natural persons exposed thereto of the operation of the system, and shall process the personal data in accordance with Regulations (EU) 2016/679 and (EU) 2018/1725 and Directive (EU) 2016/680, as applicable. This obligation shall not apply to AI systems used for biometric categorisation and emotion recognition, which are permitted by law to detect, prevent or investigate criminal offences, subject to appropriate safeguards for the rights and freedoms of third parties, and in accordance with Union law.
- 4. Deployers of an AI system that generates or manipulates image, audio or video content constituting a deep fake, shall disclose that the content has been artificially generated or manipulated. This obligation shall not apply where the use is authorised by law to detect, prevent, investigate or prosecute criminal offence. Where the content forms part of an evidently artistic, creative, satirical, fictional or analogous work or programme, the transparency obligations set out in this paragraph are limited to disclosure of the existence of such generated or manipulated content in an appropriate manner that does not hamper the display or enjoyment of the work.

Deployers of an AI system that generates or manipulates text, which is published with the purpose of informing the public on matters of public interest shall disclose that the text has been artificially generated or manipulated. This obligation shall not apply where the use is authorised by law to detect, prevent, investigate or prosecute criminal offences or where the AI-generated content has undergone a process of human review or editorial control and where a natural or legal person holds editorial responsibility for the publication of the content.

- 5. The information referred to in paragraphs 1 to 4 shall be provided to the natural persons concerned in a clear and distinguishable manner at the latest at the time of the first interaction or exposure. The information shall conform to the applicable accessibility requirements.
- 6. Paragraphs 1 to 4 shall not affect the requirements and obligations set out in Chapter III, and shall be without prejudice to other transparency obligations laid down in Union or national law for deployers of AI systems.
- 7. The AI Office shall encourage and facilitate the drawing up of codes of practice at Union level to facilitate the effective implementation of the obligations regarding the detection and la-

belling of artificially generated or manipulated content. The Commission may adopt implementing acts to approve those codes of practice in accordance with the procedure laid down in Article 56 (6). If it deems the code is not adequate, the Commission may adopt an implementing act specifying common rules for the implementation of those obligations in accordance with the examination procedure laid down in Article 98(2).

As stated in Whereas 132 of the AI Act, the objective of Article 50 is to enable individuals to recognise interactions with or (more relevant in this context) content generated by artificial intelligence systems through the imposition of specific transparency measures regarding distinct types of interaction or output. Without such measures, certain AI systems designed to interact with individuals or generate content could risk misleading them or causing them to believe they are interacting with a person or with content created by humans.

Article 50 implements, from a regulatory perspective, the principle of transparency that several European policy documents have long placed at the core of the regulatory vision of the European legal system. These include, most notably, the *Resolution on a Comprehensive European Industrial Policy on Artificial Intelligence and Robotics* (12 February 2019) of the European Parliament, the *Ethics Guidelines for Trustworthy AI* (8 April 2019) of the High-Level Expert Group on Artificial Intelligence, the *White Paper on Artificial Intelligence – A European Approach to Excellence and Trust* (19 February 2020) of the European Commission, and the *2022 Strengthened Code of Practice on Disinformation* (16 June 2022) of the European Commission.

#### Extra-normative strategies to reduce algorithmic marginalisation in podcasts

As previously noted, only in certain limited circumstances do marginalisation practices affecting minority content or social groups acquire legal significance sufficient to allow – following the classification of marginalisation as a discriminatory practice violating the principle of equality – access to legal remedies, whether individually or through public authorities.

Nevertheless, an inclusive approach to podcast production and management that respects all elements of civil society and ensures full awareness among podcast listeners makes it advisable to implement a series of interventions and practices. While not legally mandated, these are recommended as good practices. An inclusive approach ensures that podcasts are representative of all of civil society, giving voice to diverse groups and perspectives and contributing to greater social cohesion.

Firstly, in pursuing a transparent production policy, platforms should publicly disclose the criteria governing the functioning of recommendation and data collection algorithms. To counteract or mitigate marginalisation practices, regular monitoring and identification activities for such practices should be introduced, subsequently aligning algorithms with suggestion policies that are more inclusive and promote cultural and thematic diversity.

More proactively, algorithms could be programmed and aligned to pursue greater linguistic, cultural, and thematic diversity. Additionally, or as compensation, categories and awards could be created for podcasts produced by underrepresented groups.

Finally, efforts to combat the marginalisation of certain types of podcasts or content must also include, on the one hand, the promotion of activities that enable podcast producers to develop the knowledge and skills necessary to become increasingly included in algorithmic recommendations, and on the other hand, educating podcast listeners to appreciate the importance of diversifying their choices and embracing greater cultural variety.

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