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ARTICLE

From Tools to Teammates: Reimagining Moral Agency and Human–Robot Partnerships in Journalism Practice

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Advances in robot design are reshaping human-dominated fields such as journalism. The integration of autonomous, adaptive systems into society increasingly blurs the boundaries between humans and machines. In this evolving landscape, journalism, rooted in human judgment and ethics, now faces unique challenges and opportunities. China, a global leader in robotic innovations, has emerged as a pioneer in robot journalism, further underscoring the importance of understanding human–robot dynamics. Amid these developments, the concept of Artificial Moral Agents has intensified debates about whether machines can possess moral agency, and how they might coexist with humans as collaborators. Central questions arise: How do humans perceive entities that resemble humans but are not alive? Can such artificial beings be ascribed moral agency and integrated into professional domains as colleagues? This study collected data through semi-structured interviews with 15 Chinese students of journalism aspiring to join the profession with an interest in the intersection between technology and journalism. Analysis of their insights yielded six themes: 1. anthropomorphic appearance; 2. human-like cognitive and emotional abilities; 3. the decision-making capacity of robot journalists; 4. robot journalists as incompetent moral agents; 5. erosion of news authenticity and diversity; and

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6. whether the future of human–robot collaboration is as partners or rivals. This research highlights the need for philosophers and ethicists to revisit the definition of 'moral agency' and to develop frameworks to address the ambiguous moral status of artificial agents. By bridging theoretical discourse with empirical insights, this study contributes to ongoing conversations about the integration of artificial entities into journalism and society.

Keywords: robot journalist, moral agency, human–robot cooperation, autonomy, responsible gap

Introduction

Moral agency has long been central to journalism and a valued trait in journalists. Defined as "the capacity of a moral agent to provide messages to audiences", it carries ethical responsibility and accountability for actions or inaction (Matilainen 2024, p. 235). With data, algorithms, and automation entering journalism, and humanoid robots moving from sci-fi into reality, moral agency is increasingly a question (Mays et al., 2025). In this context, humanoid robots in journalism refer to artificial entities designed to perform roles and tasks that are traditionally carried out by human journalists. These entities may appear in various forms, ranging from software-based systems that automatically generate news stories from collected data to AI-powered anchors and robotic presenters that deliver news directly to audiences (Ayu Karunianingsih et al., 2025; Broussard et al., 2019). Recent developments have demonstrated this shift, for example in the introduction of AI news anchors that can imitate the appearance, voice and movements of human journalists, and report news on digital platforms (Kim & Kim, 2021; Wu et al., 2024). In this paper, *a journalist* is defined as a media professional who gathers, verifies, interprets, produces, and disseminates news and information to the public through various media platforms because while television presenters and reporters do deliver journalistic content on screen, they represent only one role within the broader field of journalism and should not be treated as if interchangeable with the profession of journalism itself. In this context, *robot journalists* refer to AI-driven systems capable of performing tasks traditionally associated with journalism, such as generating news stories, analysing data, or presenting news content through embodied forms such as AI-powered news anchors or robotic television presenters. As robots begin to mirror humans in external and some internal traits, they take on traditionally human roles and hint at future collaboration as equals (Henschel et al., 2021). As the human–machine boundary blurs, key questions arise about whether or not robot journalists can truly embody moral agency; if ethical responsibility has to be redefined; and of how this human–robot partnership will unfold in practice.

These inquiries are pressing given the human tendency to assign decision-making power to artificial agents. In journalism, journalists have a 'relatively rosy view' of robot journalism (Kim & Kim, 2018), emphasising potential and risks. Their ambivalent stance may be reinforced by the public's positive response to news being delivered by AI-generated anchors and a belief that AI and traditional journalism should synergistically enhance the

future of news production (Sun et al., 2024). The equivalent credibility of human-written and automated news suggests readers' acceptance of AI-generated content (Henestrosa et al., 2023; Wang & Huang, 2024), could also prompt journalists to embrace their robot counterparts. Moreover, the notion that the 'flawed human subjectivity' of traditional journalism should be replaced by algorithms perceived as neutral and indispensable could facilitate the acceptance of robot journalism (Carlson, 2018).

The human tendency to anthropomorphise technological artefacts – the attribution of thoughts and feelings to entities without evolutionary ties to humanity (Epley et al., 2007; Roesler et al., 2024) – underscores a key rationale for exploring Artificial Moral Agents (AMAs) (Moor, 2006). These systems are studied to assess whether artificial entities may be regarded as moral agents (MA) capable of ethical decision-making (Graff, 2024). Proponents frame AMAs as autonomous, self-improving and self-regulating (Formosa & Ryan, 2020), yet this challenges the anthropocentric ethos of journalism rooted in human judgment and lived experience (Nguyen & Hekman, 2022). Perceptions of moral agency are tied to the way individuals view themselves and others as morally accountable (Pasupathi & Wainryb, 2010). Rejection of 'algorithmic objectivity' and the valuing of human originality and judgment destabilises the conceptual scaffolding for AMAs (van Dalen, 2026). While much research critiques AI ethics in journalism (Jones & Jones, 2025; Porlezza, 2024), little focuses on the extent to which audiences perceive robot journalism as MA in journalistic roles.

In the realm of traditional journalism, China advanced journalism by introducing during the Fifth World Internet Conference the world's first comprehensive AI news anchor with a human-like appearance and reporting skills (Hua, 2018). This commitment led Xinhua to introduce an upgraded AI news anchor in 2019, named 'Xin Xiaomeng', who subsequently covered major events, such as the China Import and Export Fair and the Spring Festival Gala, as a representative of Xinhua News (Zhang, 2019). These initiatives have garnered widespread approval from both the public and the media (Zhong et al., 2025), advancing China's digital infrastructure goals as outlined in the 18th National Congress (National Development and Reform Commission of the People's Republic of China, 2023). Concurrently, the National Professional Committee on AI Governance released its Ethical Code for New Generation Artificial Intelligence in 2023 (Ministry of Science and Technology of the People's Republic of China, 2021), advocating for ethical AI practices, including privacy protection, security, accountability, and transparency in directing the responsible development and deployment of AI-powered systems (Gao & Yu, 2024). Thus the study of how moral agency is both theoretically and practically negotiated within journalism alongside human–robot journalist collaboration in contexts such as China, where rapid technological advancements aim to emulate human-like cognition (e.g. the world's first AI-powered robot news anchor) is essential.

The current study

The present study targeted Chinese students of journalism, prospective journalists with experience of using robots or AI technologies. Modern, Chinese, Generation Z students have an open-minded attitude towards AI technology tools and actively seek engagement

with them (Jing, 2024), and some have even formed virtual relationships with Chatbot companions as romantic partners (Hua, 2024). Furthermore, the younger generation faces growing pressure to take responsibility for their professional and technological development, juggling human labour and technology (Lyons et al., 2015). This study established three research objectives to guide the investigation.

The first objective was to explore how Chinese students of journalism perceive robot journalists, including their imagined appearance, capabilities, and roles within the news production process. As robotic journalism evolves from simple automated writing systems to more sophisticated artificial agents, understanding how the journalists of the future conceptualise these technologies becomes increasingly important.

The second objective is to investigate how Chinese students of journalism interpret the concept of moral agency in relation to robot journalists. Moral agency generally refers to the capacity of an entity to understand moral principles, make ethical decisions, and be held responsible for its actions (Formosa & Ryan, 2020). Exploring students' views on whether robot journalists could possess such capacities offers insight into how emerging professionals understand the ethical boundaries between human and artificial actors in journalism.

The third objective was to explore how Chinese students of journalism envision the future relationship between human and robot journalists within their professional context. As robotic technologies become more advanced and autonomous, they may shift from being technical tools to collaborative partners in the newsroom, prompting reconsideration of how responsibilities, tasks, and authority are distributed between humans and machines.

In light of these considerations, this study employs semi-structured interviews to address the following research questions:

RQ1: What perceptions do Chinese students of journalism have of robot journalists?
RQ2: How do Chinese students of journalism conceptualise the integration of moral agency into robot journalists, and how might this conceptualisation navigate the complex moral dilemmas inherent in journalistic practice?
RQ3: How do Chinese students of journalism expect the interaction between human and robot journalists to develop in journalistic contexts?

The journey of robot: From inception to innovation

Throughout human history, there have been numerous narratives and experiments exploring artificially created, living and intelligent human-like beings. These creations reflect human efforts to unravel the mysteries of life and intelligence, often drawing on metaphors from the dominant technologies of their eras (Horáková & Kelemen, 2009). In ancient times, legends about robots were prevalent across different civilisations. One of the earliest documented projects for a programmable humanoid robot was conceived by Leonardo da Vinci around 1495. His drawing outlined plans for a mechanical knight capable of standing, waving its arms, and moving its head and jaw (Gasparetto, 2016). Centuries later, the conceptual evolution of robots continued with the coining of the term 'robot', widely attributed to Karel

Čapek (1920) who introduced it in his play *Rossum's Universal Robots*. Derived from the Czech word *robota,* referring to compulsory labour, Čapek used the term to represent symbolised artificial beings created to serve humans, establishing robots in the popular imagination as autonomous entities designed to perform human tasks (Horáková & Kelemen, 2009).

Prior to the 18th century, theoretical concepts of robots far outpaced practical applications due to limitations in mechanical technology (Bogue, 2020). Early robots relied on mechanical power and were often novelties or toys until the Industrial Revolution redirected focus toward industrial needs, marking the end of 'amateur' robots (Bayram & İnce, 2017). The 1950s marked a new era with advancements in information science and technology, notably with the debut of Unimate, the first programmable robot (Moran, 2007). This innovation enabled robots to execute tasks programmed by humans and to replace humans in hazardous environments with commensurate economic advantages (Bayram & İnce, 2017). By 1972, Shake emerged as the first intelligent robot, pioneering the integration of intelligent systems and robots. Throughout the 20th century, the development of robots remained connected to progress in mechanics, computer science and AI (Wang et al., 2018). Scientists envisioned machines capable not only of mechanically replicating human movements but also of autonomous decision-making based on incomplete information and predefined criteria (Doncieux et al., 2022).

The intellectual roots of AI extend deep into human history, as ancient myths across various civilisations featured autonomous machines and artificial beings (Natale & Ballatore, 2020). However, the mathematical and philosophical foundations necessary for modern AI only emerged in the 19th and early 20th centuries. A key figure in this transformation was the British mathematician, Alan Turing. In 1936, Turing proposed the Turing Machine, a theoretical computing device demonstrating that symbolic manipulation could be executed through algorithmic procedures (Haenlein & Kaplan, 2019). This model not only laid the groundwork for modern computers but also suggested that machines might eventually perform tasks associated with human intelligence (Jiang et al., 2022).

Building on this theoretical foundation, Turing later proposed the Turing Test. He argued that if a machine could engage in conversation so effectively that a human could not distinguish it from another person, it should be considered intelligent (Haenlein & Kaplan, 2019). This proposal was revolutionary because it shifted the debate from metaphysical speculation about the soul to observable behaviours and measurable performance (Hoffmann, 2022). Rather than asking if machines could truly think, Turing focused on whether they could convincingly imitate intelligent behaviour (Danziger, 2022). This pragmatic perspective became one of the earliest operational definitions of AI and has continuously influenced contemporary debates on machine cognition (Hoffmann, 2022).

The 1950s and 1960s saw the rapid maturation of these theories into functional research. Scientists began designing programs to tackle tasks previously considered uniquely human. A milestone was the development of the General Problem Solver by Allen Newell, Herbert Simon, and Cliff Shaw, which attempted to replicate human problem-solving strategies using symbolic logic (Haenlein & Kaplan, 2019). Similarly, Joseph Weizenbaum created ELIZA, which was one of the earliest natural language processing programs capable of simulating conversations with human users (Haenlein & Kaplan, 2019). Research on imitating human learning mechanisms also made progress. The development of the neural learning model

inspired the early exploration of artificial neural networks. In 1957, Rosenblatt proposed the Perceptron Model, which became one of the earliest machine learning algorithms capable of recognising patterns (Jiang et al., 2022). These studies laid the theoretical foundation for the subsequent development of machine learning and deep learning.

In recent years, AI, machine learning, and deep learning began a radical advance in mechanical independence. These technologies utilise calculations that enable robots to memorise data, updating their experiences, capability, and flexibility in directing complex errands and circumstances (Licardo et al., 2024). Unlike ordinary rule based humanoid robots for specific tasks, AI-powered robots can learn from experience, adapt to unusual circumstances, and make choices based on their environment and past behaviour (Licardo et al., 2024). This integration locks in robots with updated capabilities, driving their application over businesses such as healthcare, instruction, family assignments, advantage divisions and amusement. Scientists have made efforts to design robot agents able to perform errands that require cognitive capacities such as organising, decision-making, and learning related to human capabilities (Licardo et al., 2024). In showing disdain toward the fact that turning robots into moral agents still poses challenges, the questions of whether and to what extent robots can reflect people in acting as moral agents has captured the imaginations of philosophers and scientists (Cervantes et al., 2020). The moral status of robots competent enough to work autonomously in real-world circumstances for extended periods has been around for a long time (Brożek & Janik, 2019; Gordon & Gunkel, 2022). Can an intelligent robot be held morally responsible for its actions? Even if robots have not yet achieved this level of sophistication, what does the near future hold? Will they become moral agents? These questions beckon us toward exploring them from a philosophical angle, seeking a deeper understanding of what it means for a robot to be a moral agent and how this could reshape human interactions and societal norms.

Moral agency, journalism and robots

Journalists have been regarded as moral agents (MAs) because of their adherence to moral intentions and their navigation of moral dilemmas through editorial judgment in the news production process (Matilainen, 2024). Autonomy is a prerequisite for moral agency, as it grants journalists the freedom and the free choice to make independent editorial decisions while balancing external pressures, such as political and economic influences (Sjøvaag, 2013). While traditional norms emphasise detachment and objectivity, journalists can struggle to separate personal emotions from moral decisions (Matilainen, 2024). Some scholars argue that emotions should be recognised as a crucial component of journalistic ethics, as they can facilitate more human-centred reporting that reconciles professional obligations with moral responsibility (Stupart, 2021). Rather than perceiving emotions as a threat to objectivity, sentiments of responsibility, empathy, and ethical concern can guide journalists in making morally sound decisions (Stupart, 2021).

Decades of effort in expanding moral agency from humans to non-humans led to the term Artificial Moral Agents (AMAs) (Moor, 2006), reinforcing the belief that machines can make ethical decisions and act morally (Formosa & Ryan, 2020; Martinho et al., 2021).

Moor (2006) classifies AMAs as: 1. *implicit MA*s following pre-defined rules without reasoning; 2. *explicit MA*s analysing situations and justifying decisions; and 3. *full MA*s possessing consciousness, autonomy and intentionality. Wallach et al. (2020) also distinguish between *top-down AMA*s (rule-based) and *bottom-up AMA*s (learning-based). Top-down AMAs are too rigid, while bottom-up AMAs risk misgeneralising because they lack the human's 'form of life'. While AMAs lack full moral sensitivity, they may still function in constrained public morality domains where subtle moral distinctions matter less (Graff, 2024).

The extant literature also identifies reasons for extending moral agency beyond humans: 1. *functional equivalence:* if an artificial entity, e.g. robot, is capable of moral reasoning and decision-making akin to humans, it may be regarded as morally agentic (Gudmunsen, 2024); 2. *social and legal recognition:* the legal framework along with social involvement in dealing with it determines their moral agency status (Gordon & Pasvenskiene, 2021); 3. *attribution of responsibility:* the growing autonomous skills and unmonitored operation of robots are increasingly seen as bearers of responsibility, at least in part (Coeckelbergh, 2020); and 4. *anthropomorphism and human perception:* people tend to attribute robots with human-like characteristics such as mind and emotion (Epley et al., 2007). These perspectives align with the functionalist view that asserts moral agency is determined by an entity's observable behaviour and functional capacities rather than its intrinsic nature (Behdadi & Munthe, 2020). In contrast, the ontological view holds that moral agency is fundamentally tied to an entity's intrinsic properties (Véliz, 2021) and robots cannot be MA due to their lack of intrinsic qualities like consciousness (Søvik, 2022).

Despite the ongoing debate on moral agency from functionalist and ontological perspectives, the increasing integration of AI into various fields, including journalism, has intensified discussions about both the advantages and ethical limitations of AI systems. Proponents of the functionalist view argue that moral subjects should not be limited to entities with inherent traits such as consciousness or biological experience (Dung, 2025). If an artificial system can perform tasks similar to moral reasoning, such as evaluating results, applying ethical rules, or generating decisions in accordance with a normative framework, then it can be regarded as functionally equivalent to a moral agent (Behdadi & Munthe, 2020; Gudmunsen, 2024). Observable behaviour and decision-making capacity rather than internal mental states determine whether an entity is able to participate in morally relevant actions; and while this argument reflects the growing sophistication of artificial systems, the ontological critique maintains that functional imitation alone does not constitute genuine moral agency (Véliz, 2021; Søvik, 2022). This tension becomes particularly visible in journalism, where technological efficiency increasingly intersects with ethical responsibility (Molla & Ahsan, 2025).

In practical terms, AI technologies have demonstrated significant instrumental advantages in journalistic practice because AI systems can quickly analyse large amounts of data, identify patterns from complex information environments, and provide support to journalists through automatic fact-checking, background research and trend analysis (Broussard et al., 2019; Kim & Kim, 2021). Moreover, algorithmic tools are capable of producing template-based news stories in data-driven domains such as financial reporting, sports coverage and weather forecasting, where datasets can be translated into standardised narratives (Leppänen et al., 2017).

However, despite these practical benefits, significant limitations remain when evaluating AI systems as potential moral agents. One fundamental limitation concerns the cognitive dimension of moral agency, particularly the absence of intentionality and genuine moral understanding. From an ontological perspective, agency requires internal mental states, such as beliefs, desires and intentions, which guide actions in meaningful ways (Swanepoel & Corks, 2024). AI systems, by contrast, generate outputs through statistical correlations and algorithmic optimisation rather than through intentional reasoning. Although their decisions may resemble human actions, they lack the internal states necessary for genuine moral agency (Sebastián, 2021). Human journalists, in contrast, interpret the ethical significance of their reporting through reflective judgment and contextual awareness (Mellado & Gajardo, 2026). For instance, decisions regarding whether to publish sensitive information often involve balancing competing values, such as the public's right to know and an individual's right to privacy. These dilemmas require normative reasoning grounded in professional ethics and lived experience, which are capacities that cannot be reduced to computational processes (Cervantes et al., 2020).

Another limitation concerns the emotional dimension of ethical decision-making. Journalism often involves reporting on human suffering, injustice and traumatic events, situations that demand empathy and emotional sensitivity. Emotions such as compassion, concern, and responsibility can guide journalists in producing ethically responsible coverage and engaging respectfully with vulnerable individuals (Stupart, 2021). AI, however, lacks genuine emotional experience and embodied perception. While AI systems can analyse sentiment or generate language that mimics empathy, these capabilities represent algorithmic simulations rather than authentic emotional understanding.

The debate extends beyond theoretical frameworks to practical considerations about responsibility and accountability. Moral agents are typically expected to bear responsibility for the consequences of their actions (Santoni de Sio & Mecacci, 2021). In journalism, this responsibility is embedded within professional norms, editorial oversight and public accountability mechanisms (Sun et al., 2024). Journalists who publish harmful or inaccurate information may face reputational damage, professional sanctions, or demands for correction and apology. When AI systems contribute to journalistic production, however, responsibility becomes more diffuse (Molla & Ahsan, 2025). Such a scenario challenges existing frameworks of moral and legal responsibility (Coeckelbergh, 2020). Scholars have warned that attributing agency to AI systems may create 'responsibility gaps', in which neither humans nor machines can be clearly held accountable for harmful outcomes (Santoni de Sio & Mecacci, 2021).

Some scholars posit the concept of *distributed morality,* which recognises that responsibility in socio-technical systems may be shared among human actors and technological agents rather than attributed to a single entity (Floridi, 2016; 2025). Others adopt a more expansive view of agency. List (2021), for example, compares AI with forms of *group agency,* such as in corporations, arguing that both raise similar questions about responsibility, legal status and moral regulation. Similarly, Laukyte (2017) suggests that artificial agents might eventually be recognised as legal actors if they meet certain conditions associated with agency, including rationality and social interaction. Moreover, some scholars argue that AI agency should be understood as existing to degrees rather than as a binary distinction between agents and non-agents (Symons & Abumusab, 2024).

Nevertheless, even these more flexible perspectives acknowledge that artificial systems currently lack many of the intrinsic characteristics associated with human moral agency (Formosa, 2021; Laitinen & Sahlgren, 2021). As Véliz (2021) argues, moral agency is deeply embedded in human social practices, cultural norms and lived experiences. Without such existential grounding, AI decision-making may remain a form of symbolic computation rather than genuine ethical judgment.

Collaboration between journalists and robots

AI-powered robot journalists now influence not only what content users see but also how media is shaped based on audience reactions (Henestrosa et al., 2023; Sun et al., 2024). This shift has fuelled debates about whether machines can truly have agency in journalism, bringing up ethical concerns such as the decontextualisation of news, lack of transparency, and the challenge of dividing responsibility between human journalists and AI systems (Dörr & Hollnbuchner, 2017). The human–machine operational collaboration represents an acceptable solution that combines oversight of computer system automation by humans who lead decision-making processes and align with journalistic goals (Rydenfelt, 2022). In this model, AI assists in workflows but follows human-led moral guidance. This view indicates that while machines show moral agency in partnerships, human involvement remains more dominant. Journalists must supervise AI systems because they must not relinquish their moral responsibility to AI-driven journalists (Rydenfelt, 2022).

Method

This study – which is rooted in the interpretive paradigm that assumes multiple realities and prioritises contextual meaning-making – employed an exploratory qualitative design using basic interpretive qualitative methodology (Krauss, 2005; Merriam, 2002). Basic qualitative research was derived philosophically from constructionism, phenomenology, and symbolic interaction and is used to understand how people interpret, construct and attribute meaning to their experiences. The overall purpose is to understand how people make sense of their lives and their experiences (Merriam, 2009). This approach offered a structured framework to understand how journalism students – prospective journalists – interpret their experiences with robot journalists, their evolving professional landscape, and the key issues such as: 1. perceptions of robot journalists; 2. the potential to ascribe moral agency (including decision-making capacity) to these technologies; and 3. the dynamics of prospective human–robot collegial collaboration.

We employed purposive sampling (criterion sampling) a common method in qualitative research (Nyimbili & Nyimbili, 2024), to select 15 participants who met the following criteria: 1. enrolment onto a journalism programme (undergraduate/post graduate) in China; 2. passionately aspire to a career in journalism; 3. have an express interest in the role of technology in journalism's future; 4. prior experience of engagement with robots or other AI technologies. Sample size justification was guided by data saturation, a principle

recommended by scholars such as Braun and Clarke (2021). Reviewing empirical studies on the sample sizes required to achieve saturation in qualitative research, Hennink and Kaiser (2022) discovered that saturation is often typically reached with between 9–17 interviews or 4–8 focus group discussions. In light of these findings, the sample size of 15 in this study has been deemed appropriate to ensure theoretical saturation.

A set of preliminary screening questions (including items related to knowledge of the current state of the news industry and prior experience with robots or AI) was designed to verify that potential participants met the study criteria. To reach potential participants, Xiaohongshu (also known as the 'Little Red Book'), one of the most popular platforms among young people in China, was used. Those potential participants who met the criteria received interview invitations and consent forms via WeChat. Upon accepting the invitation, semi-structured interviews were conducted as the next phase of the research.

With regard to ethical considerations, participants were provided with clear information about the research aim, the data collection methods, and the potential benefits and risks before their involvement. Participants' rights and freedoms were respected, including their ability to withdraw from the study at any stage, the assurance of anonymity to encourage honest responses, and adherence to privacy and confidentiality during data collection, analysis and reporting. These were all taken into account as ethical measures. Data collection was conducted from May to August 2024 via the Tencent Meeting conferencing tool. The interview session duration ranged from 28 to 51 minutes during which participants received 20 RMB (an equivalent of 3 USD) as a token of appreciation.

The data was collected in Chinese by a Chinese researcher who was fluent in both Chinese and English. Key insights from the interviews were translated into English before back-translation was performed to ensure optimal accuracy. The researcher used bilingual Chinese–English speakers to verify translation accuracy. All data were stored securely through password-protected devices, accessible only to authorised team members. Both physical and electronic records were securely archived for five years, with digital encryption to ensure confidentiality.

This study employed reflexive thematic analysis (RTA) as the analysis method. RTA functions as a methodologically accessible theoretical framework that facilitates researchers in identifying and analysing patterns or themes within a dataset (Braun & Clarke, 2019). Researcher's interpretations of patterns of meaning spread across the dataset are represented by codes. The method involves analysing the intersection of the dataset with theoretical assumptions of the study, and the analytical skills of the researcher (Braun & Clarke, 2019). The strengths of RTA lie in its accessibility, transparency and flexibility, which permits researchers to develop themes throughout the analysis process (Byrne, 2022). The adaptability and flexibility of RTA match the objectives of this study. An inductive approach was employed for the data analysis in this study, which involves coding data without requiring any predefined frameworks or adherence to the researcher's preconceptions (Naeem et al., 2023). The data emerges naturally from its source as an organic process without necessitating strict adherence to participant questions (Naeem et al., 2023). The study applies inductive analysis effectively as researchers move from specific observations to broader generalisations (Byrne, 2022) to understand the public's perception of robot journalists.

Findings

This study conducted semi-structured interviews with 15 Chinese students of journalism who aspired to becoming journalists and expressed an interest in the integration of technology and journalism. Some of them had previous internship experiences at newspapers. Table 1 presents details from the interviewees' profiles. The research questions focused on three main research areas that investigate the moral awareness and ethical issues of Chinese students of journalism and their expectations of robot journalists. Transcript analyses uncovered six main patterns that generated more complete knowledge about how living journalists differ from robot journalists.

Table 1:
Interviewees' profile

Interviewee	Nickname	Age	Gender	Major	Degree (Undergraduate (UG) / Postgraduate (PG)	University	Internship Experience
1	Xinhao	23	Female	Media & Communication	PG	Hankuk University of Foreign Studies	Newspaper outlet
2	Yiling	22	Female	Journalism & Communication	UG	Shenzhen University	Newspaper outlet
3	Ning	23	Male	Journalism & Communication	PG	Jiangxi University of Finance and Economics	None
4	Miaomiao	22	Female	Journalism	UG	Ningbo University	None
5	Aurelia	22	Female	Journalism	UG	Ningbo Tech University	None
6	Dong	24	Male	Journalism	PG	Anhui University	Newspaper outlet
7	Haiyang	23	Male	Journalism	PG	Henan Normal University	Newspaper outlet
8	Wanmei	22	Female	Journalism	UG	Anhui Xinhua University	Newspaper outlet
9	Qinyuan	22	Female	Media & Communication	PG	University of Nottingham Ningbo China	None
10	Ruixue	23	Male	Journalism	PG	Anhui University	None

Interviewee	Nickname	Age	Gender	Major	Degree (Undergraduate (UG) / Postgraduate (PG)	University	Internship Experience
11	Maomao	24	Female	Journalism & Communication	PG	East China University of Political Science and Law	Newspaper outlet
12	Xiaoman	23	Female	Journalism	PG	Shandong University	In newspaper
13	Congcong	22	Female	Journalism & Communication	PG	Central South University	In newspaper
14	Sue	24	Female	Journalism	PG	Beijing Normal University at Zhuhai	In PR
15	Zhihua	22	Male	Journalism	PG	Shanxi University	None

Source: Compiled by the authors.

RQ1: What perceptions do Chinese students of journalism have of robot journalists?

In exploring the perceptions of Chinese students of journalism regarding robot journalists, the findings reveal two primary themes: anthropomorphic appearance and human-like capabilities. Each of them is accompanied by multiple sub-themes, as illustrated in Table 2.

Table 2:
Theme, sub-themes and the initial codes
for the perception of journalism students on robotic journalist

Theme	Sub-theme	Initial Code
Anthropomorphic appearance		'human-like'; 'a gentle smile'; 'an elegant female figure'
Human-like abilities	Cognitive ability Emotional ability	'as sharp as an eagle's'; 'as sensitive as a hunting dog's'; 'display sadness'

Source: Compiled by the authors.

Participants generally expressed expectations that align with findings commonly observed in earlier studies: that robots should resemble humans in form, as presented in Theme 1 below.

Theme 1: Anthropomorphic appearance

The theme emphasising the anthropomorphic appearance of robot journalists reflects the beliefs of Chinese students of journalism that these robots should exhibit human-like attributes. Most of the interviewees expressed the idea that robot journalists should appear 'human-like', featuring nonverbal cues such as facial expressions and gestures, like 'a gentle smile'. They also accentuated the importance of attire, suggesting either 'an elegant female figure' or 'a male figure in a suit and tie'. However, some interviewees found overly human-like designs 'creepy' or 'uncomfortable'.

However, for robot journalists, given the distinctive characteristics of this profession, participants placed particular emphasis on human-like cognitive and emotional capabilities, thereby offering new insights that enrich our findings.

Theme 2: Human-like abilities

The findings indicated that robot journalists exhibit human-like capabilities essential for journalism. These capabilities encompass cognitive and emotional traits.

Cognitive ability

Cognitive abilities entail a logical reasoning mechanism. Our interviewees stated that robot journalists should be able to employ some mechanism of logic and reasoning, as this would enable them to respond promptly to their surroundings. Such capabilities would allow them to identify relevant news stories while gathering accurate information. Robot journalists must be able to recognise social cues and latent information. Our respondents also emphasised that perspective-taking emerges as an important capability for robot journalists, like communication and smooth interaction, highlighting the necessity of understanding multiple dimensions of aptitude of journalism when interpreting individuals' intentions and actions.

Emotional ability

Sensory abilities were also identified as essential attributes for robot journalists. This imperative was conveyed through expressions such as having eyes 'as sharp as an eagle's' and a nose 'as sensitive as a hunting dog's', capturing a comprehensive view on robots as an event and effective narrator. Emotional sensitivity and understanding were also highlighted as prerequisites, as evidenced by their expressions, such as showing a 'tight face' when feeling 'nervous' or 'stressed' while delivering a talk. All interviewees concurred that robot journalists are expected to demonstrate a certain degree of empathy, such as the capacity to 'display

sadness' when encountering 'bereaved families weeping in sorrow', to 'sense' the pain and express understanding and being able to 'feel [others'] anger'. Some interviewees described synthetic empathy generated through programming as 'fake empathy', as opposed to genuine understanding that derived from the heartfelt feelings. Other interviewees were even more cynical, describing this programmed empathy as akin to 'mathematical' problem-solving, where emotions are mechanically imitated without inner authenticity.

> **RQ2:** How do Chinese students of journalism conceptualise the integration of moral agency into robot journalists, and how might this conceptualisation navigate the complex moral dilemmas inherent in journalistic practice?

When analysing the perceptions of Chinese students of journalism concerning the moral agency of robot journalists, the primary themes indicate that robot journalists possess decision-making capabilities but are fundamentally flawed as moral agents (MAs). The main themes and sub-themes, along with their initial codes, are presented in Table 3.

Table 3:
Theme, sub-themes and initial codes for perceptions of Chinese students of journalism on moral agency on robotic journalists

Theme	Sub-theme	Initial code
Decision-making capacity of robotic journalists	Predetermined logic vs. machine learning in decision-making	'complex'; 'unforeseeable'; 'flexibility'
	Utilitarianism in robotic decision-making	'so narrow-minded'; 'free of human bias'; 'references from its database'
	Complexity of human morality	'nerds'; 'facts accurately'; 'lack the warmth of human care'
Robotic journalists as incompetent moral agents	Tool-like nature of robotic journalists	'manipulated'; 'free of will'; 'puppets'
	Accountability dilemma for robotic journalists	'meaningless'; 'malicious intentions'; 'scapegoats'
	Possible solutions to accountability dilemma	'one-to-one accountability'; 'proves false or harmful'; 'facilitate subsequent accountability'

Source: Compiled by the authors.

Participants' perceptions of the moral agency of robot journalists generally align with the prevailing understanding of AI systems as data-driven, tool-like entities. However, beyond these general perceptions, this study further reveals additional multi-faceted dimensions to how people understand moral decision-making and accountability, particularly within the journalistic context in which moral dilemmas frequently arise and human judgment is highly valued. The findings highlight the deeper complexity involved in understanding

and managing moral responsibility in the context of robotic journalism. In other words, the findings reveal that, within specific professional contexts, people's understanding of the moral responsibility of AI and AI-powered entities is moving beyond traditional tool-oriented frameworks, giving rise to more diverse interpretations.

Theme 1: Decision-making capacity of robot journalists

The results indicated that robot journalists do have decision-making abilities. Nevertheless, they possess predetermined logic and have experienced machine learning in their decision-making processes. It was also discovered that the robot journalist utilised utilitarianism in decision-making as a result of the complexity of human morality.

Predetermined logic vs. machine learning in decision-making

Interviewees generally attributed the decision-making abilities of robot journalists to data-driven, programmed settings and machine learning; which was evident in verbatim quotes as highlighted by Sue: "As long as we give them the standards and principles on how to make proper news judgments, they can handle procedural decisions like choosing newsworthy stories effectively;" and Wanmei stated: "Like a journalism student, it learns and memorises all the rules and knowledge, but in a way that is much faster than a human, inputting data and setting up programmes." However, the downsides of these pre-set decision-making methods raise a red flag to some of the interviewees, as some situations are 'complex' and 'unforeseeable', and the lack of references in the previous training model, combined with a lack of 'flexibility', makes it difficult to make 'appropriate judgments'. On a more optimistic and lenient note, robot journalists were evaluated as capable of learning on their own, helping them make more sound decisions through 'advanced data analysis and calculations', as expressed by Miaomiao and by Xinhao: "...catching the patterns, and then working out better solutions through computation." One interviewee, Ning stated: "With a lot of practice and 'reflection' – if this word can be applied to robots – they become smarter and learn to make better decisions."

Utilitarianism in robot decision-making

Some interviewees argued that robot journalists maintain ethical standards better than human journalists because they follow programmed principles while having no capacity for emotion. These mind-sets appeared concertedly in excerpts such as robots "aren't tempted by anything and they aren't scared of threats", "free of personal values or thoughts of their own", "massive size of the data help robots not be 'so narrow-minded'", and "free of human bias". Replying on their strong computational abilities and vast access to data, robot journalists

demonstrate objective reporting. They should be able to discover beneficial solutions as suggested by Congcong: "When we try to solve a moral issue, we think about the good and bad sides. Robots can do this more accurately because they make the best choice to maximise benefits." Since they get "references from its database" "should surely be able to make more forward-looking judgments".

Complexity of human morality

Several interviewees raised concerns about the ethical judgment of robot journalists. They argued that ethical decision-making cannot simply be reduced to computation due to the intricacy of ethical dilemmas. Interviewees highlighted that the 'best' solution calculated by the robot may not necessarily be equivalent to that of a human. As highlighted by Zhihua: "If it were a robot journalist, I guess it would keep reporting the truth." Another interviewee believed that robot journalists are unable to make good decisions. Besides, Dong indicated they were like 'nerds', one who "learns mechanically, rigidly adhering to principles without regard for practical results". They report 'facts accurately' but could 'lack the warmth of human care', lacking moral considerations. Some interviewees stand at the midpoint on the moral decision-making spectrum, adopting a 'so-so' perspective and relativism that relies on social norms to establish moral values. Given this, robot journalists would fall short when they maintain absolute standards as an inflexible approach in news reporting.

Theme 2: Robot journalists as incompetent moral agents

It was also discovered that robot journalists demonstrate signs of incompetence as MAs when functioning as tools while facing problems related to accountability. Nevertheless, insightful solutions were recommended for overcoming these constraints.

Tool-like nature of robot journalists

Our interviewees generally held the view that robot journalists do not possess autonomy and are controlled by humans. This stance was explicitly reflected in discourses including the terms 'manipulated', free 'will', 'puppets', and free of 'spontaneous desires'. Interviewees believed that robot journalists are 'instruction' dependent and lack 'self-awareness'. Other interviewees also stated that granting robots the right to act independently is impractical. Another interviewee, Aurelia, emphasised that the "existence of a 'black box' for their actions makes it difficult to assign specific responsibilities" while Ning added that "tools are not responsible for anything". They all argued that treating robot journalists as independent agents would complicate the assignment of responsibility and create an enigma, given the inherent incompatibility between independence and irresponsibility.

Accountability dilemma for robot journalists

Since most of the interviewees perceived robot journalists as mere tools, they concurred that such entities cannot be held accountable in the same manner as humans. This stance is reflected in the interviewees' statements, such as the assertion that there is "no sense in punishing the robot" or that it is 'meaningless' to punish them, as they are incapable of feeling 'any pain or guilt' or feeling 'good'. Moreover, interviewees noted that robots lack 'malicious intentions' and are 'not driven by greed or selfishness to act harmfully'. One interviewee believed that if robot journalists were held responsible for their actions and reports, human journalists might use them as 'scapegoats'. Conversely, other interviewees held a diametrically opposing view, arguing that if robot journalists were not held accountable for their actions, humans could be unfairly blamed. This view implies that future robot journalists may easily deceive humans, as the authenticity of robot-generated content might be dubious. For instance, Maomao stated: "A human editor might unknowingly publish a fabricated photo. In such cases, it's unreasonable to hold the editor responsible if the content proves to be false or harmful." One interviewee, Aurelia, highlighted the need for legal frameworks to address robots' potential for unpredictable and uncontrollable actions as their behaviour could "move beyond human control". She further emphasised: "Such highly intelligent robot journalists may seem a long way off at this point in time, the system and the law must always be one step ahead."

Possible solutions to the accountability dilemma

Our interviewees offered some solutions to address the issue of accountability for robot journalists. Several interviewees contended that implementing a responsibility-traceability system would be beneficial, encompassing designers of robot journalists, programmers, producers, and the news organisations employing them. Alternatively, other interviewees stated that the role of news organisations in upholding accountability should be strengthened, considering that they are the entities directly using robot journalists. One interviewee recommended appointing an experienced human journalist or editor to oversee robot journalists, concurring Qinyuan, another interviewee's analogy, who mentioned: "It's like an old master leading his apprentice, with one-to-one teaching and one-to-one accountability. When the apprentice goes wrong, the master is naturally held accountable." Another interviewee, Wanmei also emphasised the need for transparency. She added that "this would not only guarantee the public's right to know the source of the news, but also demonstrate a responsible attitude and facilitate subsequent accountability".

> **RQ3:** How do Chinese students of journalism expect the interaction between human journalists and robot journalists to develop in journalistic contexts?

The study participants expressed a variety of viewpoints regarding the extent to which Chinese students of journalism expect human journalists to interact with robot journalists. The interview analysis revealed two primary themes: 1. erosion of news authenticity and

diversity; and 2. partners or rivals? The future of human–robot collaboration. Each theme includes two corresponding sub-themes, as illustrated in Table 4.

Table 4:
Theme, sub-themes and the initial code for the expectation of Chinese students of journalism

Theme	Sub-theme	Initial code
Erosion of news authenticity and diversity	Homogenisation of news and loss of diverse perspectives	'repetitive formulas'; 'loss of diverse voices'; 'only copy the views of others'
	Absence of human touch in news	'miss the nonverbal cues'; 'flat'; 'cold';
Partners or rivals? The future of human–robot collaboration	Robotic journalist as helpful sidekicks	'ensuring the timeliness of news'; 'free of errors'; 'detecting and correcting errors'
	Robotic journalists as emerging rivals	'do the work of three human journalists'; 'he'll replace me'; 'inevitable careless mistakes'
	Human-led cooperative relationship	'a mascot or an attention-grabbing gimmick'; 'lubricant'; 'grasp the depth of human nature'

Source: Compiled by the authors.

Across the data, participants expressed relatively consistent views regarding both the capabilities and limitations of robot journalists, which are findings that align with prior research on human–machine collaboration. Notably, their perspectives extended beyond technical considerations to address broader issues related to industry structure, audience engagement, and the evolving role of human journalists, thereby illuminating the complex and evolving relationship between humans and AI-powered systems in journalism.

Theme 1: Erosion of news authenticity and diversity

Students' expectations on the extent of interaction between human journalists and robot journalist were consistent. It was reported that the authenticity and diversity of the news produced by robot journalists is compromised. The two main sub-themes derived from the analysis encompass: homogenisation of news and loss of diverse perspectives and the absence of the human touch in news.

Homogenisation of news and loss of diverse perspectives

Our interviewees also raised the concern that robot journalists might lead to homogenised news content, stifling diverse viewpoints. This was reflected in critiques by Dong: "It would be boring if all news were written by robot journalists using repetitive formulas", alongside

phrases like "loss of diverse voices", and that "robot journalists only copy the views of others". Smaller outlets, unable to adopt robot journalism due to financial constraints, risk losing competitiveness, being phased out, and contributing to the homogenisation of voices in journalism. For example, one interviewee, Aurelia, explained that large newspapers owned by wealthy capitalists or backed by the state can afford to purchase robot journalists. These outlets, she argued, would amplify the perspectives of powerful groups, stating: "The voices they promote will reflect the thoughts of these classes." She added that if newspapers are controlled by authorities, press freedom would be compromised, making it difficult for the public to hear diverse voices.

Absence of the human touch in news

While our interviewees generally agreed that robot journalists can uphold professional values, they also raised the concern that these systems might struggle to fully grasp the human elements of journalism. For example, Haiyang expressed the thought that "they may miss the nonverbal cues that human journalists can often catch during interviews". One interviewee, Qinyuan, noted that news composed by robot journalists might be perceived as 'flat' or 'cold', lacking the emotional appeal necessary to "move people or inspire deep reflection". Another interviewee, Ning, argued that "even though robot journalists can learn this through imitation and training, after all, it's not what they do best".

Theme 2: Partners or rivals? The future of human–robot collaboration

Another main theme is the consideration of robots being either partners or rivals. The future of human–robot journalistic collaboration remains contradictory. The relationship functions both in support of each other at times yet can become competitive on other occasions while humans maintain authority over decisions.

Robot journalists as helpful sidekicks

Many interviewees argued that robot journalists may significantly enhance productivity in the news industry by outperforming humans in both efficiency and accuracy. This notion was manifested in practices "ensuring the timeliness of news", while counterbalancing the "inevitable careless mistakes" made by human journalists. Unlike humans, robot systems are "free of errors" and excel at "detecting and correcting errors". They assist human journalists by quickly processing and integrating large amounts of information, lightening their workload and enabling them to focus on in-depth investigative reporting.

Robot journalists as emerging rivals

Robot journalists are increasingly perceived as formidable competitors, sparking concerns among professionals about the potential displacement of human journalists. These arguments were reflected in statements such as "one robot journalist can do the work of three human journalists at the same time", (Yiling) and "if I don't work hard, he'll replace me with a robot journalist" (Haiyang). To ensure survivability in the age of robots, interviewees emphasised the imperative for education in journalism to evolve. This evolution should focus on teaching collaboration with robot systems, enabling journalists to leverage the synergistic strengths of human creativity and machine efficiency. Another interviewee, Ruixue, argued that "learning and familiarising themselves [human journalists] more with new technologies and thinking about how to work better with robots", is critical for effective human–robot collaboration. The interviewees argued that the amalgamation of human intuition with machine precision would achieve a formidable synergy.

Human-led cooperative relationship

Some interviewees advocated for a clear division of tasks between human journalists and robot systems. Robot journalists can efficiently handle technical tasks while humans focus on translating complex information into accessible narratives for audiences. For example, Zhihua stated: "We could equip robot journalists with scene reconstruction capabilities to simulate the scene of news events." Robot journalists might function more like 'a mascot or an attention-grabbing gimmick' while human journalists would act as a 'lubricant' between robot systems and audiences. Our interviewees highlighted the inability of robot journalists to 'grasp the depth of human nature' in interactions and relationships, asserting that journalism fundamentally revolves around connecting with people, rather than merely processing data or deploying technology.

Discussion

The interviewees preferred robot journalists with human-like appearances, reflecting schema congruence (familiarity boosting acceptance) (Lou et al., 2022) and anthropomorphism (attributing human traits to nonhumans) (Epley et al., 2007). However, the phenomenon of the Uncanny Valley Theory positing that overly human-like robots cause discomfort (Mori, 2012) was also evident in participants' accounts. Anthropomorphism extends beyond physical traits or behaviours to include attributing human mental states to nonhumans (Dubois-Sage et al., 2023). This heightened anthropomorphism, echoing Theory of Mind (ToM, i.e. the ability to infer mental states), was also reflected in interviewees' positioning (Lopez-Soto et al., 2024). They assigned cognitive and emotional abilities to robot journalists, deeming these essential for effective journalism. Interviewees also perceived human-like robots as increasing trust and relatability, reinforcing existing evidence that anthropomorphism

enhances predictability, trustworthiness (Roesler et al., 2024), and collaboration with nonhuman agents (Zhao & Malle, 2022).

Given empathy's critical role in journalism – its absence hinders work in emotionally charged scenarios – and its salience in human–robot trust (Pelau et al., 2021), interviewees deemed empathy essential for robot journalists but highlighted its artificiality. This mirrors weak anthropomorphism, where humans treat agents as if they possess human traits, despite knowing otherwise (Epley et al., 2007). Critics call artificial empathy deceptive, as it relies on predefined rules, not consciousness or authentic emotion (Mlonyeni, 2025; Umbrello & Natale, 2024).

Two predominant themes emerged from interviewees' accounts regarding robot journalists' decision-making capabilities: *programme-based abilities* and *experience-based abilities*. The former is principle-based and algorithm-centric, enabling robot journalists to manage both straightforward news decisions and complex ethical judgments. Conversely, the latter is established based on robot journalists' ability to learn from human journalists' experiences, resembling collective intelligence. The programme-driven approach exemplifies the top-down methodology for designing AMAs, wherein AI systems are endowed with ethical frameworks rooted in moral philosophy (Wallach et al., 2020). This paradigm also echoes the codifiability thesis, which posits that ethics can be condensed into universal moral rules applicable regardless of individual moral competence (Véliz, 2021). The bottom-up approach is characterised by decision-making rooted in internal practices and the autonomous redefinition of decision-making skills. Robot journalists utilise adaptive mechanisms to render ethically sound judgments (Wallach et al., 2020). Robot journalists' ethical decision-making as it manifested in interviewee discourses is also reminiscent of Moor's (2006) explicit ethical agent framework, in which agents are designed to recognise morally salient information in specific contexts and act in accordance with externally derived ethical principles.

Robot journalism's resistance to bias and aid from diverse databases were also shared by the interviewees. This suggests the assertion of 'machine objectivism', where machines could outperform humans as MA by avoiding irrationality and self-interest (Martinho et al., 2021). Scholars outlined AI as Kantian agents applying universal ethics (via programmed principles), not subjective motives (Brożek & Janik, 2019). Interviewees similarly saw robot journalists making principled decisions using pre-set moral frameworks, ensuring consistent, unbiased outcomes free from human fallibility. Another cluster of interviewees endorsed utilitarian ethical principles, supporting Grau's (2006) argument that machines can act as superior utilitarian MA, maximising overall utility. Interviewees' perception of robot journalists as emotionless, objective entities reflects this utilitarian stance. However, robot journalists might rigidly follow abstract ethical rules, risking unintended harm. This highlights a key flaw in the top-down AI approach, that is, overly abstract principles struggle to address specific situations effectively (Wallach et al., 2020). For example, utilitarianism's goal to "maximise the greatest good" offers no guidance on who to include in calculations or how to quantify 'utility' (Brożek & Janik, 2019). Interviewees noted that an AI calculated 'best' outcome might conflict with human values or societal appropriateness, casting doubt on its capacity for ethical decision-making. This aligns with the existing argument that AMAs cannot replace humans in resolving ambiguous moral dilemmas, as ethical decision-making involves complex cultural, social, and personal considerations that are not purely algorithmic (Martinho et al., 2021).

Similar concerns were raised about the bottom-up approach. Interviewees noted that there is risk of acquiring biases or unethical tendencies from their training data or exposure to human practices. Interviewees also expressed concerns about biases embedded in algorithms that guide the robot journalists. Therefore, they proposed solutions to mitigate bias including pre-processing techniques during data selection, in-processing adjustments during model training, and post-processing refinements in application (Mehrabi et al., 2021).

Interviewees also described robot journalists as devices that reproduce human moral decision-making and exert moral influence, thus conveying moral agency. This manifests the *functional equivalence* view, moral agency becomes equivalent to or functions as an MA (Søvik, 2022). Robot journalists could qualify as MAs by employing top-down and bottom-up ethical reasoning systems. Customary use of human moral criteria still falls short to qualify robots as agents who demonstrate authentic moral agency. An essential problem with moral practices stems from an inability to translate them into formal instructions (Purves et al., 2015). Machines frequently prove able to make sound moral choices yet they struggle with unfamiliar scenarios or unprogrammed exceptions, rendering morality beyond their reach (Véliz, 2021). As algorithms assume more roles in public and private sectors, humans may increasingly shift blame to automated systems when errors occur. If algorithms become targets of praise or blame, accountability for those who design, deploy, or oversee them could erode (Véliz, 2021).

According to the ontological view of moral agency, attributes such as autonomy and consciousness are required for true moral responsibility (Cervantes et al., 2020; Formosa, 2021; Mosakas, 2021); however, our interviewees described robot journalists as lacking autonomy. As in previous studies, the interviewees argued that machines cannot be true MA because in the absence of morality they act as tools, hence they cannot bear moral responsibility (Véliz, 2021). Some scholars contest the necessity of autonomy for moral responsibility, contrasting with interviewees' emphasis on autonomy as central to moral agency. Others propose sentience – subjective experiences of pleasure, pain and awareness of consequences – as the true basis of moral agency (Mosakas, 2021; Véliz, 2021). This is corresponded with interviewees' critiques of robot journalists as entities devoid of emotional understanding or subjective experience. For instance, robot journalists mechanically prioritise programmed 'values' as numerical rankings (Janoušek, 2024). Hence, they cannot engage moral action while bearing responsibility according to Confucian theories that both directly oppose the ideas of fairness, as well as objectivity (Chuang, 2025). The interviewees noted that punishing robot journalists is futile, as they cannot feel guilt or pain; and while humans may anthropomorphise machines (e.g. blaming inanimate objects), they inherently recognise that these entities lack true accountability.

Some interviewees, echoing scholars, suggested robot journalists could evolve into MA as AI advances are achieved via a 'master algorithm' (Bertoncini & Serafim, 2023). They speculated such systems might surpass human cognition, developing independent 'minds' worthy of accountability. However, critics counter with parallels to psychopaths – while highly intelligent, their inability to feel shame or grasp morality negates moral agency (Mosakas, 2021). This aligns with the orthogonality thesis, which warns that even supremely intelligent AI could lack inherent concern for human well-being (Véliz, 2021).

The situation demonstrates why Confucian values regarding ethical choices would be missing from robot reporters.

Interviewees' comparison of robot journalists to 'puppets' matches the instrumentalist theory position (Gunkel, 2020), implying human responsibility as the only factor. However, critics argue that if developers face liability for AI's unintended actions, they may limit advanced, autonomous systems to avoid culpability (Gunkel, 2020). This tension grows as robot journalists increasingly demonstrate independent news and ethical judgments, blurring the line between tool and agent. A key concern is the unpredictability of AI systems with learning capabilities, which complicates assigning human responsibility – a dilemma termed the 'responsibility gap' (Hindriks & Veluwenkamp, 2023). However, hybrid approaches still struggle to distinguish between accountable agents and mere tools. To bridge this gap, interviewees proposed a responsibility traceability system involving designers, programmers and news organisations, aligned with the principle of 'meaningful human control' (Santoni de Sio & van den Hoven, 2018) that requires two conditions: tracking (monitoring AI decisions) and tracing (mapping accountability across stakeholders) (Santoni de Sio & van den Hoven, 2018).

The interviewees downplayed robot journalists' capabilities and assert human dominance in journalistic areas requiring sensitivity and discernment, such as investigative reporting, empathetic storytelling and ethical decision-making. This aligns with prior research showing journalists often dismiss automation as competition by strategically emphasising their superior skills (e.g. emotional intelligence, creativity and news judgment) (Rydenfelt, 2022; van Dalen, 2026). Such arguments reinforce a human-centric view of journalism, which may reflect speciesism, a human cognitive prejudice against other species (Pauketat & Anthis, 2022).

Conclusion

The increasing integration of new technological advancements – specifically robots – in journalism raises concerns about how these advancements, once viewed as merely submissive to human journalists, are now becoming more pronounced in the field. This shift presents new opportunities that could significantly impact the landscape of journalism. The current study, pioneering among limited existing research, puts forward inquiries into the relevance of moral agency in robot journalists, its influence on the decision-making process in journalism, and how this perceived conceptualisation of moral agency flows within the collaboration between human journalists and robot journalists. Although diverse perspectives exist with regard to AI-powered journalism robots, a prevailing view is that these entities fall short of being full moral agents. They are better described as explicit moral agents – guided by pre-programmed systems – capable of making seemingly sensible moral decisions, yet lacking consciousness and emotional sensitivity. While there is an argument that robots should possess human-like attributes – including cognitive and sensory abilities – to effectively function as journalists, the 'uncanny valley' phenomenon emerges as a significant pitfall. This effect may hinder their acceptance and effectiveness in human-facing roles such as journalism. These findings could practically contribute to both software and hardware developers by

informing the design of robot features that reflect anthropomorphic qualities while avoiding the 'uncanny valley effect', which undermines trust and communication effectiveness.

Given that the term AMAs is still not fully developed in practical and operational terms within the field of journalism, traditional expectations – such as empathising with the subjects involved in a story – remain essential. This highlights that AMAs still have a long way to go before becoming concrete and reliable in journalistic practice, and before their theoretical axioms can translate into practical application. Such limitations support the reservations and critical stances toward incorporating machines into journalism, despite the appeal of a functionalist perspective. AI-powered robots still pose a significant accountability challenge in journalism. This calls for urgent measures from Chinese policymakers to establish clear governance frameworks in newsrooms, ensuring human oversight and clearly defined accountability systems. Ultimately, primary agency and leadership should remain with human beings, without burdening them with the uncertainties arising from robot journalists.

Although this study yields contributions, its limitations, which could serve as a point of departure for future research, should be acknowledged. While the targeted subjects were students of journalism with prior exposure to robots and AI, their limited real-world journalism experience may have influenced their responses. Experienced or traditional journalists might hold different perspectives on robot journalism and the concept of AMAs, particularly as practiced in real journalistic settings; and their interactions with robots could also differ significantly from those of journalism students. This study employed a basic interpretative design with semi-structured interviews as the primary data collection method. However, to better capture the complexities of human–robot relationships – particularly those shaped by mutual, unmediated interaction and relational dialectics – an ethnographic observational approach could address limitations inherent in interview-based methods and current research designs.

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References

Ayu Karunianingsih, D., Sarifah, S., Korina Relawati, D., Dwi Setyorini, M. & Utomo, A. (2025). Use of Artificial Intelligence Technology AI News Presenter in the News Production Process at TVOne.ai. *COMMICAST, 6*(2), 348–363. Online: https://doi.org/10.12928/commicast.v6i2.14323

Bayram, B. & İnce, G. (2017). Advances in Robotics in the Era of Industry 4.0. In A. Ustundag & E. Cevikcan (Eds.), *Industry 4.0: Managing the Digital Transformation* (pp. 187–200). Springer. Online: https://doi.org/10.1007/978-3-319-57870-5_11

Behdadi, D. & Munthe, C. (2020). A Normative Approach to Artificial Moral Agency. *Minds and Machines, 30*, 195–218. Online: https://doi.org/10.1007/s11023-020-09525-8

Bertoncini, A. L. C. & Serafim, M. C. (2023). Ethical Content in Artificial Intelligence Systems: A Demand Explained in Three Critical Points. *Frontiers in Psychology, 14*. Online: https://doi.org/10.3389/fpsyg.2023.1074787

Bogue, R. (2020). Robots in a Contagious World. *Industrial Robot, 47*(5), 637–642. Online: https://doi.org/10.1108/IR-05-2020-0101

Braun, V. & Clarke, V. (2019). Reflecting on Reflexive Thematic Analysis. *Qualitative Research in Sport, Exercise and Health, 11*(4), 589–597. Online: https://doi.org/10.1080/2159676x.2019.1628806

Braun, V. & Clarke, V. (2021). To Saturate or Not to Saturate? Questioning Data Saturation as a Useful Concept for Thematic Analysis and Sample-Size Rationales. *Qualitative Research in Sport, Exercise and Health, 13*(2), 201–216. Online: https://doi.org/10.1080/2159676x.2019.1704846

Broussard, M., Diakopoulos, N., Guzman, A. L., Abebe, R., Dupagne, M. & Chuan, C.-H. (2019). Artificial Intelligence and Journalism. *Journalism & Mass Communication Quarterly, 96*(3), 673–695. Online: https://doi.org/10.1177/1077699019859901

Brożek, B. & Janik, B. (2019). Can Artificial Intelligences Be Moral Agents? *New Ideas in Psychology, 54*, 101–106. Online: https://doi.org/10.1016/j.newideapsych.2018.12.002

Byrne, D. A. (2022). A Worked Example of Braun and Clarke's Approach to Reflexive Thematic Analysis. *Quality & Quantity, 56*, 1391–1412. Online: https://doi.org/10.1007/s11135-021-01182-y

Carlson, M. (2018). Automating Judgment? Algorithmic Judgment, News Knowledge, and Journalistic Professionalism. *New Media & Society, 20*(5), 1755–1772. Online: https://doi.org/10.1177/1461444817706684

Cervantes, J., López, S., Rodríguez, L., Cervantes, S., Cervantes, F. & Ramos, F. (2020). Artificial Moral Agents: A Survey of the Current Status. *Science and Engineering Ethics, 26*(2), 501–532. Online: https://doi.org/10.1007/s11948-019-00151-x

Chuang, S. (2025). A Philosophical Look at Confucian Humanity in the Age of Robots. *International Journal of Organizational Analysis, 33*(5), 1324–1334. Online: https://doi.org/10.1108/IJOA-03-2024-4380

Coeckelbergh, M. (2020). Artificial Intelligence, Responsibility Attribution, and a Relational Justification of Explainability. *Science and Engineering Ethics, 26*(4), 2051–2068. Online: https://doi.org/10.1007/s11948-019-00146-8

Danziger, S. (2022). Intelligence as a Social Concept: A Socio-Technological Interpretation of the Turing Test. *Philosophy & Technology, 35*(3). Online: https://doi.org/10.1007/s13347-022-00561-z

Domingos, P. (2015). *The Master Algorithm. How the Quest for the Ultimate Learning Machine Will Remake our World.* Basic Books.

Doncieux, S., Chatila, R., Straube, S. & Kirchner, F. (2022). Human-centered AI and Robotics. *AI Perspectives, 4*(1). Online: https://doi.org/10.1186/s42467-021-00014-x

Dörr, K. N. & Hollnbuchner, K. (2017). Ethical Challenges of Algorithmic Journalism. *Digital Journalism, 5*(4), 404–419. Online: https://doi.org/10.1080/21670811.2016.1167612

Dubois-Sage, M., Jacquet, B., Jamet, F. & Baratgin, J. (2023). We Do Not Anthropomorphize a Robot Based only on its Cover: Context Matters Too! *Applied Sciences, 13*. Online: https://doi.org/10.3390/app13158743

Dung, L. (2025). Understanding Artificial Agency. *The Philosophical Quarterly, 75*(2), 450–472. Online: https://doi.org/10.1093/pq/pqae010

Epley, N., Waytz, A. & Cacioppo, J. T. (2007). On Seeing Human: A Three-factor Theory of Anthropomorphism. *Psychological Review, 114*(4), 864-886. Online: https://doi.org/10.1037/0033-295X.114.4.864

Floridi, L. (2016). Faultless Responsibility: On the Nature and Allocation of Moral Responsibility for Distributed Moral Actions. *Philosophical Transactions of the Royal Society A: Mathematical, Physical and Engineering Sciences, 374*(2083). Online: https://doi.org/10.1098/rsta.2016.0112

Floridi, L. (2025). AI as Agency without Intelligence: On Artificial Intelligence as a New Form of Artificial Agency and the Multiple Realisability of Agency Thesis. *Philosophy & Technology*, *38*(1). Online: https://doi.org/10.1007/s13347-025-00858-9

Formosa, P. (2021). Robot Autonomy vs. Human Autonomy: Social Robots, Artificial Intelligence (AI), and the Nature of Autonomy. *Minds and Machines, 31*(4), 595–616. Online: https://doi.org/10.1007/s11023-021-09579-2

Formosa, P. & Ryan, M. (2020). Making Moral Machines: Why We Need Artificial Moral Agents. *AI & Society, 36*, 839–851. Online: https://doi.org/10.1007/s00146-020-01089-6

Gao, D. & Yu, D. (2024). Challenges and Cracks: Ethical Issues in the Development of Artificial Intelligence. *Science, Technology and Society, 29*(3), 415–434. Online: https://doi.org/10.1177/09717218241246372

Gasparetto, A. (2016). Robots in History: Legends and Prototypes from Ancient Times to the Industrial Revolution. In C. López-Cajún & M. Ceccarelli (Eds.), *Explorations in the History of Machines and Mechanisms. Proceedings of the Fifth IFToMM Symposium on the History of Machines and Mechanisms* (pp. 39–49). Springer.

Gordon, J.-S. & Gunkel, D. J. (2022). Moral Status and Intelligent Robots. *The Southern Journal of Philosophy, 60*(1), 88–117. Online: https://doi.org/10.1111/sjp.12450

Gordon, J.-S. & Pasvenskiene, A. (2021). Human Rights for Robots? A Literature Review. *AI and Ethics, 1*(3–4), 579–591. Online: https://doi.org/10.1007/s43681-021-00050-7

Graff, J. (2024). Moral Sensitivity and the Limits of Artificial Moral Agents. *Ethics and Information Technology, 26*(1). Online: https://doi.org/10.1007/s10676-024-09755-9

Grau, C. (2006). There Is No "I" in "Robot": Robots and Utilitarianism. *IEEE Intelligent Systems, 21*(4), 52–55. Online: https://doi.org/10.1109/MIS.2006.81

Gudmunsen, Z. (2024). The Moral Decision Machine: A Challenge for Artificial Moral Agency Based on Moral Deference. *AI and Ethics, 5*, 1033–1045. Online: https://doi.org/10.1007/s43681-024-00444-3

Gunkel, D. J. (2020). Mind the Gap: Responsible Robotics and the Problem of Responsibility. *Ethics and Information Technology, 22*(4), 307–320. Online: https://doi.org/10.1007/s10676-017-9428-2

Haenlein, M. & Kaplan, A. (2019). A Brief History of Artificial Intelligence: On the Past, Present, and Future of Artificial Intelligence. *California Management Review, 61*(4), 5–14. Online: https://doi.org/10.1177/0008125619864925

Henestrosa, A. L., Greving, H. & Kimmerle, J. (2023). Automated Journalism: The Effects of AI Authorship and Evaluative Information on the Perception of a Science Journalism Article. *Computers in Human Behavior, 138*. Online: https://doi.org/10.1016/j.chb.2022.107445

Hennink, M. & Kaiser, B. N. (2022). Sample Sizes for Saturation in Qualitative Research: A Systematic Review of Empirical Tests. *Social Science & Medicine, 292*. Online: https://doi.org/10.1016/j.socscimed.2021.114523

Henschel, A., Laban, G. & Cross, E. S. (2021). What Makes a Robot Social? A Review of Social Robots from Science Fiction to a Home or Hospital Near You. *Current Robotics Reports, 2*(1), 9–19. Online: https://doi.org/10.1007/s43154-020-00035-0

Hindriks, F. & Veluwenkamp, H. (2023). The Risks of Autonomous Machines: From Responsibility Gaps to Control Gaps. *Synthese, 201*(1). Online: https://doi.org/10.1007/s11229-022-04001-5

Hoffmann, C. H. (2022). Is AI Intelligent? An Assessment of Artificial Intelligence, 70 Years after Turing. *Technology in Society, 68*. Online: https://doi.org/10.1016/j.techsoc.2022.101893

Horáková, J. & Kelemen, J. (2009). Artificial Living Beings and Robots: One Root, Variety of Influences. *Artificial Life and Robotics, 13*(2), 555–560. Online: https://doi.org/10.1007/s10015-008-0502-z

Hua, X. (2018, June 15). Xinhua Upgrades AI-based News Production System. *Xinhua*. Online: http://www.xinhuanet.com/english/2018-06/15/c_137256200.htm

Hua, X. (2024, November 4). Feature: China's AI-savvy Younger Generation Creates a New Wave of Cultural Memes. *Xinhua*. Online: https://english.news.cn/20241104/621d370da3ef40d08cad850884ca30bb/c.html

Janoušek, H. (2024). Brentano and Husserl on Hume's Moral Philosophy. *Journal of the British Society for Phenomenology, 55*(2), 133–148. Online: https://doi.org/10.1080/00071773.2024.2308281

Jiang, Y., Li, X., Luo, H., Yin, S. & Kaynak, O. (2022). Quo Vadis Artificial Intelligence? *Discover Artificial Intelligence, 2*(1). Online: https://doi.org/10.1007/s44163-022-00022-8

Jing, S. (2024, May 30). Report Reveals Youth's Views on AIGC. *China Daily*. Online: https://www.chinadaily.com.cn/a/202405/30/WS66586a99a31082fc043ca12d.html

Jones, B. & Jones, R. (2025). Action Research at the BBC: Interrogating Artificial Intelligence with Journalists to Generate Actionable Insights for the Newsroom. *Journalism, 26*(8), 1708–1725. Online: https://doi.org/10.1177/14648849251317150

Kim, D. & Kim, S. (2018). Newspaper Journalists' Attitudes towards Robot Journalism. *Telematics and Informatics, 35*(2), 340–357. Online: https://doi.org/10.1016/j.tele.2017.12.009

Kim, D. & Kim, S. (2021). A Model for User Acceptance of Robot Journalism: Influence of Positive Disconfirmation and Uncertainty Avoidance. *Technological Forecasting and Social Change, 163*. Online: https://doi.org/10.1016/j.techfore.2020.120448

Krauss, S. E. (2005). Research Paradigms and Meaning Making: A Primer. *The Qualitative Report, 10*(4), 758–770. Online: https://doi.org/10.46743/2160-3715/2005.1831

Laitinen, A. & Sahlgren, O. (2021). AI Systems and Respect for Human Autonomy. *Frontiers in Artificial Intelligence, 4*. Online: https://doi.org/10.3389/frai.2021.705164

Laukyte, M. (2017). Artificial Agents among Us: Should We Recognize Them as Agents Proper? *Ethics and Information Technology, 19*(1), 1–17. Online: https://doi.org/10.1007/s10676-016-9411-3

Leppänen, L., Munezero, M., Granroth-Wilding, M. & Toivonen, H. (2017). Data-driven News Generation for Automated Journalism. In J. M. Alonso, A. Bugarin & E. Reiter (Eds.), *Proceedings of the 10th International Conference on Natural Language Generation* (pp. 188–197). Online: https://doi.org/10.18653/v1/W17-3528

Licardo, J. T., Domjan, M. & Orehovački, T. (2024). Intelligent Robotics – A Systematic Review of Emerging Technologies and Trends. *Electronics, 13*(3). Online: https://doi.org/10.3390/electronics13030542

List, C. (2021). Group Agency and Artificial Intelligence. *Philosophy & Technology, 34*(4), 1213–1242. Online: https://doi.org/10.1007/s13347-021-00454-7

Lopez-Soto, T., Garcia-Lopez, A. & Salguero-Lamillar, F. J. (2024). The Theory of Mind under Scrutiny: Psychopathology, Neuroscience, Philosophy of Mind and Artificial Intelligence. In T. Lopez-Soto, A. Garcia-Lopez & F. J. Salguero-Lamillar (Eds.), *The Theory of Mind under Scrutiny*. Springer. Online: https://doi.org/10.1007/978-3-031-46742-4

Lou, C., Kang, H. & Tse, C. H. (2022). Bots vs. Humans: How Schema Congruity, Contingency-based Interactivity, and Sympathy Influence Consumer Perceptions and Patronage Intentions. *International Journal of Advertising, 41*(4), 655–684. Online: https://doi.org/10.1080/02650487.2021.1951510

Lyons, S., Urick, M., Kuron, L. & Schweitzer, L. (2015). Generational Differences in the Workplace: There Is Complexity beyond the Stereotypes. *Industrial and Organizational Psychology, 8*(3), 346–356. Online: http://doi:10.1017/iop.2015.48

Martinho, A., Poulsen, A., Kroesen, M. & Chorus, C. (2021). Perspectives about Artificial Moral Agents. *AI and Ethics, 1*(4), 477–490. Online: https://doi.org/10.1007/s43681-021-00055-2

Matilainen, T. (2024). A Communicational Ontology Inspired by Peter Singer. *Journal of Media Ethics, 39*(4), 230–243. Online: https://doi.org/10.1080/23736992.2024.2418047

Mays, K. K., Cummings, J. J. & Katz, J. E. (2025). The Robot Rights and Responsibilities Scale: Development and Validation of a Metric for Understanding Perceptions of Robots' Rights and Responsibilities. *International Journal of Human–Computer Interaction, 41*(5), 3413–3430. Online: https://doi.org/10.1080/10447318.2024.2338332

Mehrabi, N., Morstatter, F., Saxena, N., Lerman, K. & Galstyan, A. (2021). A Survey on Bias and Fairness in Machine Learning. *ACM Computing Surveys, 54*(6), 1–35. Online: https://doi.org/10.1145/3457607

Mellado, C. & Gajardo, C. (2026). The Importance of the Human Touch in Journalism: Journalistic Values from an Audience Perspective. *Journalism Practice, 20*(3), 747–764. Online: https://doi.org/10.1080/17512786.2024.2387668

Merriam, S. B. (2002). *Qualitative Research in Practice. Examples for Discussion and Analysis.* Jossey-Bass.

Merriam, S. B. (2009). *Qualitative Research. A Guide to Design and Implementation.* Jossey-Bass.

Ministry of Science and Technology of the People's Republic of China. (2021, September 26). 新一代人工智能伦理规范 [New Generation of Artificial Intelligence Ethics]. Online: https://www.most.gov.cn/kjbgz/202109/t20210926_177063.html

Mlonyeni, P. M. T. (2025). Personal AI, Deception, and the Problem of Emotional Bubbles. *AI & Society, 40*, 1927–1938. Online: https://doi.org/10.1007/s00146-024-01958-4

Molla, M. A. M. & Ahsan, M. M. (2025). Artificial Intelligence and Journalism: A Systematic Bibliometric and Thematic Analysis of Global Research. *Computers in Human Behavior Reports, 20*. Online: https://doi.org/10.1016/j.chbr.2025.100830

Moor, J. H. (2006). The Nature, Importance, and Difficulty of Machine Ethics. *IEEE Intelligent Systems, 21*(4), 18–21. Online: https://doi.org/10.1109/mis.2006.80

Moran, M. E. (2007). Evolution of Robotic Arms. *Journal of Robotic Surgery, 1*(2), 103–111. Online: https://doi.org/10.1007/s11701-006-0002-x

Mori, M. (2012). *The Uncanny Valley: The Original Essay by Masahiro Mori.* Trans. K. F. MacDorman & N. Kageki. IEEE Spectrum, 6(1), 1–6. (Original work 1970.)

Mosakas, K. (2021). On the Moral Status of Social Robots: Considering the Consciousness Criterion. *AI & Society, 36*, 429–443. Online: https://doi.org/10.1007/s00146-020-01002-1

Naeem, M., Ozuem, W., Howell, K. & Ranfagni, S. (2023). A Step-by-Step Process of Thematic Analysis to Develop a Conceptual Model in Qualitative Research. *International Journal of Qualitative Methods, 22*. Online: https://doi.org/10.1177/16094069231205789

Natale, S. & Ballatore, A. (2020). Imagining the Thinking Machine: Technological Myths and the Rise of Artificial Intelligence. *Convergence: The International Journal of Research into New Media Technologies, 26*(1), 3–18. Online: https://doi.org/10.1177/1354856517715164

National Development and Reform Commission of the People's Republic of China (2023, December 6). Stand at the Forefront of the Times and Seize the Opportunities for Development. *NDRC.gov.* Online: https://www.ndrc.gov.cn/xwdt/ztzl/NEW_srxxgcjjpjjsx/jjsxyjqk/sxzj/202401/t20240116_1363486.html

Nguyen, D. & Hekman, E. (2022). The News Framing of Artificial Intelligence: A Critical Exploration of How Media Discourses Make Sense of Automation. *AI & Society, 39*(2), 437–451. Online: https://doi.org/10.1007/s00146-022-01511-1

Nyimbili, F. & Nyimbili, L. (2024). Types of Purposive Sampling Techniques with Their Examples and Application in Qualitative Research Studies. *British Journal of Multidisciplinary and Advanced Studies, 5*(1), 90–99. Online: https://doi.org/10.37745/bjmas.2022.0419

Pauketat, J. V. & Anthis, J. R. (2022). Predicting the Moral Consideration of Artificial Intelligences. *Computers in Human Behavior, 136*. Online: https://doi.org/10.1016/j.chb.2022.107372

Pasupathi, M. & Wainryb, C. (2010). Developing Moral Agency through Narrative. *Human Development, 53*(2), 55–80. Online: https://doi.org/10.1159/000288208

Pelau, C., Dabija, D. & Ene, I. (2021). What Makes an AI Device Human-like? The Role of Interaction Quality, Empathy and Perceived Psychological Anthropomorphic Characteristics in the Acceptance of Artificial Intelligence in the Service Industry. *Computers in Human Behavior, 122*. Online: https://doi.org/10.1016/j.chb.2021.106855

Porlezza, C. (2024). The Datafication of Digital Journalism: A History of Everlasting Challenges between Ethical Issues and Regulation. *Journalism, 25*(5), 1167–1185. Online: https://doi.org/10.1177/14648849231190232

Purves, D., Jenkins, R. & Strawser, B. J. (2015). Autonomous Machines, Moral Judgment, and Acting for the Right Reasons. *Ethical Theory and Moral Practice, 18*, 851–872. Online: https://doi.org/10.1007/s10677-015-9563-y

Roesler, E., Vollmann, M., Manzey, D. & Onnasch, L. (2024). The Dynamics of Human–Robot Trust Attitude and Behavior – Exploring the Effects of Anthropomorphism and Type of Failure. *Computers in Human Behavior, 150*. Online: https://doi.org/10.1016/j.chb.2023.108008

Rydenfelt, H. (2022). Transforming Media Agency? Approaches to Automation in Finnish Legacy Media. *New Media & Society, 24*(12), 2598–2613. Online: https://doi.org/10.1177/1461444821998705

Santoni de Sio, F. & Mecacci, G. (2021). Four Responsibility Gaps with Artificial Intelligence: Why They Matter and How to Address Them. *Philosophy & Technology, 34*(4), 1057–1084. Online: https://doi.org/10.1007/s13347-021-00450-x

Santoni de Sio, F. & van den Hoven, J. (2018). Meaningful Human Control over Autonomous Systems: A Philosophical Account. *Frontiers in Robots and AI, 5*. Online: https://doi.org/10.3389/frobt.2018.00015

Schmitt, B. (2020). Speciesism: An Obstacle to AI and Robot Adoption. *Marketing Letters, 31*, 3–6. Online: https://doi.org/10.1007/s11002-019-09499-3

Sebastián, M. Á. (2021). First-person Representations and Responsible Agency in AI. *Synthese, 199*(3), 7061–7079. Online: https://doi.org/10.1007/s11229-021-03105-8

Sjøvaag, H. (2013). Journalistic Autonomy: Between Structure, Agency and Institution. *Nordicom Review, 34*(Special Issue), 155–166. Online: https://doi.org/10.2478/nor-2013-0111

Søvik, A. O. (2022). How a Non-Conscious Robot Could Be an Agent with Capacity for Morally Responsible Behaviour. *AI and Ethics, 2*(4), 789–800. Online: https://doi.org/10.1007/s43681-022-00140-0

Stupart, R. (2021). Feeling Responsible: Emotion and Practical Ethics in Conflict Journalism. *Media, War & Conflict, 14*(3), 268–281. Online: https://doi.org/10.1177/17506352211013461

Sun, M., Hu, W. & Wu, Y. (2024). Public Perceptions and Attitudes towards the Application of Artificial Intelligence in Journalism: From a China-based Survey. *Journalism Practice, 18*(3), 548–570. Online: https://doi.org/10.1080/17512786.2022.2055621

Swanepoel, D. & Corks, D. (2024). Artificial Intelligence and Agency: Tie-breaking in AI Decision-making. *Science and Engineering Ethics, 30*(2). Online: https://doi.org/10.1007/s11948-024-00476-2

Symons, J. & Abumusab, S. (2024). Social Agency for Artifacts: Chatbots and the Ethics of Artificial Intelligence. *Digital Society, 3*(1). Online: https://doi.org/10.1007/s44206-023-00086-8

Umbrello, S. & Natale, S. (2024). Reframing Deception for Human-centered AI. *International Journal of Social Robotics, 16*(11), 2223–2241. Online: https://doi.org/10.1007/s12369-024-01184-4

Van Dalen, A. (2026). Revisiting the Algorithms behind the Headlines. How Journalists Respond to Professional Competition of Generative AI. *Journalism Practice, 20*(3), 897–914. Online: https://doi.org/10.1080/17512786.2024.2389209

Véliz, C. (2021). Moral Zombies: Why Algorithms Are Not Moral Agents. *AI & Society, 36*(2), 487–497. Online: https://doi.org/10.1007/s00146-021-01189-x

Wallach, W., Allen, C. & Smit, I. (2020). Machine Morality: Bottom-up and Top-down Approaches for Modelling Human Moral Faculties. In W. Wallach & P. Asaro (Eds.), *Machine Ethics and Robot Ethics* (pp. 249–266). Routledge. Online: https://doi.org/10.4324/9781003074991

Wang, S. & Huang, G. (2024). The Impact of Machine Authorship on News Audience Perceptions: A Meta-analysis of Experimental Studies. *Communication Research, 51*(7), 815–842. Online: https://doi.org/10.1177/00936502241229794

Wang, T.-M., Tao, Y. & Liu, H. (2018). Current Researches and Future Development Trend of Intelligent Robot: A Review. *International Journal of Automation and Computing*, *15*(5), 525–546. Online: https://doi.org/10.1007/s11633-018-1115-1

Wu, H., Chen, Z., Huang, Y. & Tu, H. (2024). Research on the Uncanny Valley Effect in Artificial Intelligence News Anchors. *Multimedia Tools and Applications, 83*, 62581–62606. Online: https://doi.org/10.1007/s11042-023-18073-z

Zhang, Z. (2019, March 11). Will Female AI News Anchors Replace Humans on the Job?: China Daily columnist. *The Straits Times*. Online: https://www.straitstimes.com/asia/east-asia/will-female-ai-news-anchors-replace-humans-on-the-job-china-daily-columnist

Zhao, X. & Malle, B. F. (2022). Spontaneous Perspective Taking toward Robots: The Unique Impact of Humanlike Appearance. *Cognition, 224*. Online: https://doi.org/10.1016/j.cognition.2022.105076

Zhong, D., Wu, F., Huang, Z. & Chen, Y. (2025). Navigating the Human-digital Nexus: Understanding Consumer Intentions with AI Anchors in Live Commerce. *Behaviour & Information Technology, 44*(16), 4096–4111. Online: https://doi.org/10.1080/0144929X.2025.2469655