

The psychosocial dynamics of nomophobia in children with special needs: A parental perspective study in Jambi

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Abstract

Background: Nomophobia, defined as the intense anxiety experienced when separated from a mobile phone, is increasingly recognized as a pressing public health issue, particularly among children with special needs (CSN). For these children, digital devices often serve as tools for self-soothing and emotional regulation, which may heighten their vulnerability to the negative effects of nomophobia. **Objective:** This study examines the phenomenon from the perspective of parents in Jambi City, Indonesia, a context where research on CSN remains scarce. **Methods:** A qualitative descriptive approach was employed, gathering insights from 89 parents through an online open-ended questionnaire circulated via community networks. Analysis revealed that nomophobia arises from a combination of factors. **Results:** Children frequently displayed strong emotional reactions, such as crying or anger, when access to their phones was restricted, suggesting that the device acts as a surrogate for comfort and self-regulation. These responses were intensified by the limited presence of alternative social and sensory activities in their surroundings. Furthermore, inconsistent parental monitoring, alongside mixed feelings regarding the advantages and potential risks of mobile phone use, appeared to mediate these behaviors. Parents consistently voiced a need for structured guidance and broader systemic support to promote healthier digital habits. The findings indicate that nomophobia among CSN cannot be understood merely as individual dependence; rather, it reflects intricate family dynamics and the children's adaptation to a digitally saturated environment. **Conclusion:** The study highlights the critical role of active parental mentorship and institutional support in offering suitable alternative activities, ultimately fostering balanced psychosocial development for CSN.

Keywords: Nomophobia; children with special needs; parental perspectives; qualitative study; Jambi City.

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INTRODUCTION

The rapid rise of digital technology has profoundly changed the ways humans interact, learn, and construct identity. Smartphones, once considered luxury items, are now integral to daily life, not only for adults but increasingly for school-aged children. While these devices offer clear educational and communication benefits, they also introduce new psychological challenges, including the development of dependency. One of the most notable manifestations of this dependency is nomophobia, defined as excessive anxiety or fear experienced when a person is unable to access their mobile phone [1]. Children and adolescents appear particularly susceptible to such emerging patterns of digital behavior [2], with Farooqui et al. [3] highlighting nomophobia as a growing mental health concern closely linked to habitual device use.

A systematic review by Notara et al. [4] indicates that nomophobia is spreading rapidly across different age groups and social contexts, underscoring the need for targeted investigation among pediatric populations, especially children with special needs (CSN). In contemporary digital environments, CSN frequently rely on mobile phones for self-soothing, independent learning, or communication, particularly when face-to-face social support is limited. In these cases, the mobile phone functions beyond a mere communication tool; it often compensates for social and emotional adaptation challenges [5,6]. In Indonesia, despite the increasing use of mobile phones, research on nomophobia remains limited. Safaria et al. [7] describe it as a modern anxiety linked to the fear of losing social connection and the sense of security provided by smartphones.

Parenting practices play a pivotal role in shaping children's digital habits. Abdullah et al. [8] note that permissive attitudes toward early-age gadget use may accelerate the onset of nomophobia symptoms. From a developmental standpoint, Self-Determination Theory [9] provides a useful lens, suggesting that unmet needs for autonomy, competence, and relatedness in real-world interactions may drive children to seek satisfaction through digital media. Erikson's theory [19] similarly posits that children in the industry and identity stages strive to achieve self-confidence and social independence. For children with autism spectrum disorder (ASD), challenges in social and emotional regulation often lead them to use mobile devices as a surrogate for safety and social connection. Family context is equally important. According to Bronfenbrenner's Ecological Systems Theory [10], child behavior develops through continuous interactions with their immediate environment, particularly the family microsystem. Parental monitoring, values, and supervision strategies significantly influence whether mobile phone use contributes to adaptive development or fosters dependence. Research suggests that collaborative and communicative parental mediation tends to be more effective than strict restrictions [11].

Numerous studies illustrate that nomophobia is a multidimensional phenomenon, encompassing both device dependence and emotional reliance on social connectivity. Yildirim et al. [12] emphasize this dual nature, while Gezgin et al. [13] and Gürbüz and Özkan [14] show that usage duration, social motivation, and family support affect nomophobia levels, especially among children and adolescents who rely on phones for emotional comfort. A recent meta-analysis reports that over half of students and young adults globally exhibit substantial nomophobia [15]. Despite these insights, research on CSN is particularly limited in Southeast Asia. This population often demonstrates distinct social and emotional patterns and relies heavily on family support, making them potentially more vulnerable to digital dependence than typically developing children.

In Indonesia, and specifically in Jambi City, it is crucial to understand how parents perceive and interpret their children's mobile phone use. This study aims to explore nomophobia among CSN through the lens of their parents' experiences. Using a descriptive qualitative approach, it examines parental perceptions, patterns of mobile dependence, and strategies used to manage digital engagement at home. Findings from this research are expected to enrich theoretical understanding of nomophobia in CSN and to inform practical, family-centered strategies for promoting balanced digital engagement and psychosocial development.

METHODS

Study design and setting

The researchers used a qualitative descriptive approach to explore how nomophobia appears among children with special needs (CSN), seen through the eyes of their parents. Data were gathered via an online open-ended questionnaire completed by 89 parents; although the sample size provided breadth, the primary interest was the depth and texture of the parents' written accounts. The open responses offered rich, first-hand narratives that allowed the researchers to describe parents' observations and coping strategies in their own words, without forcing the data into a rigid theoretical frame (16). The study took place in Jambi City, Indonesia, an urban setting experiencing rapid social and technological change, chosen specifically because of the noticeable rise in mobile phone use among children there. This local context provided a meaningful backdrop for examining family interactions around device use, an area that has been relatively neglected in prior research.

Participants and sampling procedure

The study involved parents or guardians of children with special needs (CSN) who had regular access to a smartphone. Participants were selected using a purposive, focusing on those who met specific inclusion criteria. To qualify, individuals needed to be a parent or guardian of a child aged 6 to 17 years, ensure that the child used a mobile phone at least once daily, and be willing to participate voluntarily. Parents whose children did not have regular access to a mobile phone or who were unwilling to complete the questionnaire fully were excluded. In total, 89 parents contributed by completing an online questionnaire composed of open-ended questions. The researchers distributed the questionnaire through inclusive education community networks and CSN parent groups on social media, allowing participants from diverse backgrounds within the target population to share their experiences and perspectives.

Most respondents were parents aged between 30 and 50 years, representing a stage of life characterized by active engagement in child-rearing. Regarding educational background, the majority had completed senior high school or held a bachelor's degree (S1), indicating a level of literacy sufficient to engage meaningfully with the study's subject matter. The children included in the study were predominantly male and ranged in age from 5 to 12 years, a critical period marked by rapid cognitive and social development. Autism emerged as the most common category of special needs, followed by ADHD and speech-language disorders. Additionally, a notable proportion of children presented with multiple co-occurring special needs, highlighting the diversity of characteristics that shape their interactions with digital technology.

Table 1. Demographic characteristics of informants

Characteristics	Category	Frequency (n)	Percentage (%)
Parent/Guardian Age	Under 20 years	1	1.1
	20 - 30 years	7	8.0
	30 - 40 years	35	39.8
	40 - 50 years	27	30.7
	Over 50 years	17	19.3
Parents' Last Education	Master's/Doctorate (S2 - S3) / equivalent	5	5.7
	Bachelor's Degree (S1) / equivalent	31	35.2
	Senior High School (SMA) / equivalent	33	37.5
	Junior High School (SMP) / equivalent	7	8.0
	Elementary School (SD) / equivalent	5	5.7
	Did not complete Elementary School	7	8.0
	Child's Gender	Male	57
Female		32	35.2
Child's Age	Under 5 years	11	12.5
	5 - 12 years	60	68.2
	13 - 18 years	16	18.2
	Over 18 years	1	1.1
Child's Type of Special Needs	Autisme	18	20.5
	ADHD	8	9.1
	Deaf/Hearing Impairment	6	6.8
	Speech-language disorder	6	6.8
	Intellectual Disability	4	4.5
	Physical Disability	4	4.5
	Combination	43	48.3

Research instrument

The research instrument consisted of an online open-ended questionnaire, designed following established guidelines for conducting qualitative research in digital settings. The questionnaire covered five main domains relevant to the study of nomophobia: 1) the child's emotional reactions when access to mobile phones is restricted; 2) daily patterns of mobile phone use; 3) parental supervision and mediation strategies; 4) perceptions of the benefits and limitations of mobile phone use; and 5) parents' future aspirations regarding their child's engagement with technology. The instrument was carefully crafted to encourage detailed, narrative responses from participants. Its content validity was reviewed and confirmed by two experts in child developmental psychology. In addition, a readability test was conducted with three parents of children with special needs (CSN) before distributing

the survey link, ensuring that the questions were clear, understandable, and easy to respond to.

Procedure and data collection

Data collection took place from June to October 2025 using the Google Form platform. The questionnaire link was shared digitally through parent communities and inclusive educational institutions. Before completing the survey, participants were asked to review a research information sheet and provide electronic informed consent. All responses were collected anonymously, with no requirement to disclose personal identifiers. Survey data were stored securely with password protection to ensure confidentiality. Participants were also informed that they could withdraw from the study at any point without any consequences.

Data analysis

The data were analyzed using an inductive approach in line with the principles of thematic analysis. Following Creswell (16), this qualitative process involved organizing, coding, and interpreting the data to identify meaningful themes, allowing patterns to emerge naturally rather than being constrained by pre-existing theoretical frameworks. The analysis proceeded according to the five phases outlined by Braun and Clarke (17): initial familiarization through repeated readings, generation of initial codes, searching for preliminary themes, reviewing and defining themes, and producing the final report. This fully inductive approach ensured that the resulting themes reflected the patterns inherent in the data (18). To enhance reliability and inter-coder consistency, two researchers independently coded a subset of the responses, resolving any discrepancies through discussion and consensus. Direct quotations from participants were incorporated throughout to illustrate and enrich the findings, providing authentic insights into their experiences.

Ethical considerations

Participation in this study was completely voluntary, with all respondents providing informed consent prior to participation. The researchers ensured that all data were kept confidential and that respondents' identities remained anonymous. Collected data were stored securely and used solely for academic and scientific purposes, with strict measures in place to protect participants' privacy.

RESULTS

A review of the responses from the open-ended questionnaire indicated that many parents observed notable emotional reactions in their children when access to mobile phones was restricted. Children displayed a variety of behaviors, including crying, anger, and whining, particularly when limits were placed on screen time. These reactions reflect anxiety linked to the absence of the device, highlighting a strong emotional attachment to the mobile phone. While some children were able to exercise self-restraint without showing extreme responses, others clearly exhibited signs of emotional dependence.

“Bosan merengek tidak ada game... candu game.” (Informan Rzh, No.2)

“Dalam situasi menangis, marah, merajuk karena tidak dapat memegang ponsel.” (Informan A, No.23) – in Bahasa Indonesia

The following quotations illustrate that mobile phones serve not only as a source of entertainment for children but also as a tool for self-regulation. The emotional responses observed in these situations reflect an underlying need for comfort and stability, which children often seek through engagement with digital devices.

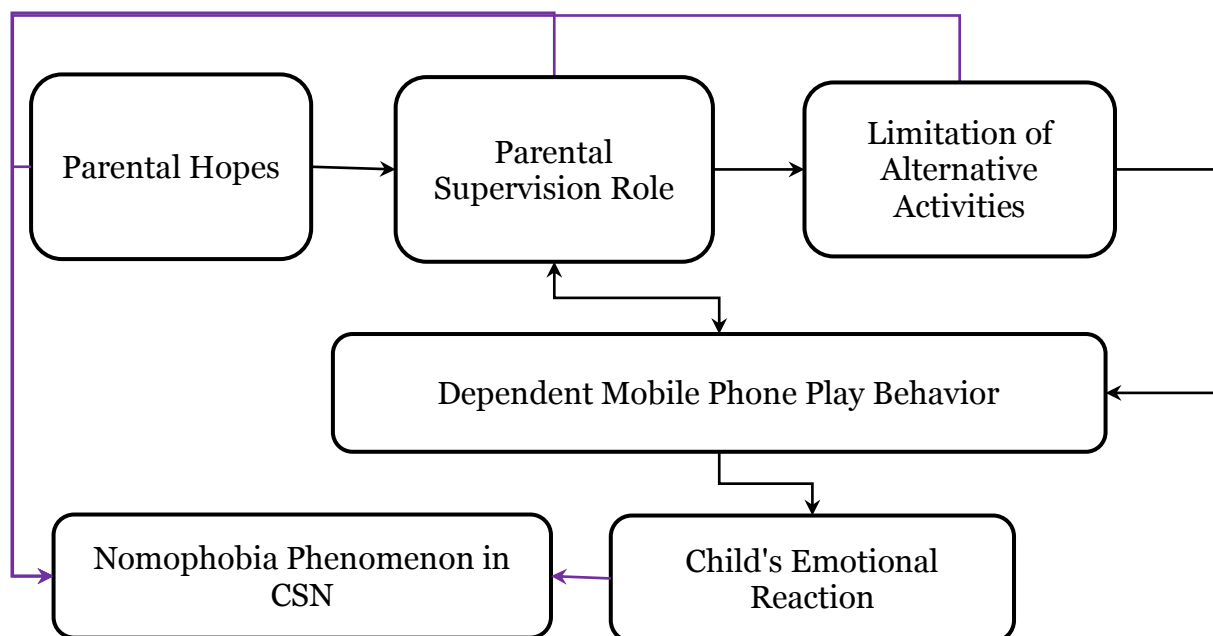


Figure 1. Dynamic of Nomophobia in CSN from the Parental Perspective. **Remarks:** The figure is structured around several key elements. Solid black arrows (→/↔) indicate unidirectional or bidirectional causal relationships between specific themes, such as the impact of dependent behavior on emotional reactions or the reciprocal interactions between dependent behavior and parental supervision. Solid purple arrows (→) represent the overarching influence of the entire contextual system, encompassing factors such as parental expectations, supervision, daily activities, and children's reactions. Together, these factors converge to produce the manifestation of nomophobia in children with special needs (CSN) as the central outcome.

As illustrated in Figure 1, nomophobia in children with special needs arises from a complex interplay of emotional factors, parenting practices, perceptions of technology, and environmental conditions. Mobile phones serve both as a source of comfort and as a potential source of dependency, which can be difficult to address without consistent parental guidance. This highlights that children's mobile phone use cannot be understood in isolation but must be viewed within the broader family and social context. Such an understanding provides a foundation for the subsequent discussion, which connects the study's findings to established psychological theories and empirical evidence from previous research.

Pattern of dependence and child behavioral responses

Many parents reported that their children show a strong preference for using mobile phones over engaging in other activities. These children often display notable resistance to distraction or redirection, with mobile phones becoming the primary way they spend their leisure time. This pattern suggests that the mobile phone has become an integral part of the child's emotional routine, serving a role beyond that of a simple educational or instructional tool.

“Jika buku gambar habis, mencari ponsel.” (Informan P, No.19)

“Anak sering merengek minta HP; ada rasa kecanduan pada game.”
(Informan Rzh, No.2)

“Negatif = kecanduan HP, anak jadi ngamuk.” (Informan RR, No.18) – in Bahasa Indonesia

This pattern indicates that children with special needs often rely on mobile phones to obtain stimulation and regulate their emotions. When the device is removed, they frequently exhibit clear reluctance, suggesting that their psychological needs are not being fulfilled through alternative activities. Importantly, this phenomenon does not occur in isolation but is closely linked to how parents manage and mediate mobile phone use within the home.

Parental role and digital supervision strategies

Most informants emphasized the importance of parental accompaniment when children use mobile phones, highlighting the need to establish clear boundaries for both time and content. However, consistently enforcing these rules often proved challenging, particularly for parents with limited time or those who work outside the home.

“Harus dibatasi; wajib selalu didampingi disaat harus menggunakan.”
(Informan TA, No.7)

“Disesuaikan saja dengan kebutuhannya.” (Informan P, No.19) – in Bahasa Indonesia

The findings indicate that parents play a dual role, acting both as supervisors and facilitators. Their efforts extend beyond mere control, encompassing guidance on responsible and balanced mobile phone use. At the same time, challenges in maintaining consistent boundaries were identified as a contributing factor to the development of usage patterns that can become difficult to manage.

Perceptions of benefits and ambivalence toward mobile phone use

A further finding highlighted parental ambivalence toward the mobile phone's benefits. While parents recognized the device as a valuable educational tool that supports learning and communication, they also expressed concern about its potential to foster addictive behaviors and contribute to behavioral challenges.

“Bisa ditinggal jualan kalau di rumah sendirian.” (Informan S, No.16)

“Ponsel penting untuk belajar, bisa membantu saat tugas.” (Informan K, No.20)

“Video menggambar dan mewarnai sehingga bisa belajar.” (Informan P, No.19) – in Bahasa Indonesia

This ambivalence suggests that mobile phones hold dual significance in the lives of children and their families. While the devices support learning and educational activities, they may simultaneously reduce opportunities for direct social interaction. This range of perspectives is further influenced by the varying levels of digital literacy among parents.

Technical constraints and need for support

Several parents reported facing limitations in their ability to supervise digital device use, citing a combination of limited technological knowledge and insufficient time. Participants expressed a need for the development of more suitable educational applications for children with special needs, along with easily accessible tools for monitoring and controlling usage.

“Jika sedang bepergian keluar rumah meminta HP terus menerus...”
(Informan NW, No.9) – in Bahasa Indonesia

This finding indicates that digital supervision is not fully effective without external support. Parents need guidance and practical tools to help them manage their child’s mobile phone use more effectively. Such support could be provided through educational institutions or community-based organizations.

Parental hopes for adaptive mobile phone use

This finding suggests that parental digital supervision alone may not be fully effective without external support. Parents require guidance and practical resources to manage their child’s mobile phone use more effectively. Such support could be offered through educational institutions or community organizations, providing structured assistance to complement parental efforts.

“Semoga anak saya bisa menggunakan ponsel untuk kebutuhan belajarnya.”
(Informan P, No.1)

“Dalam kondisi jika saya kerja dan tidak ada orang di rumah... tidak ada yang dikhawatirkan selagi dalam pengawasan orang dewasa.” (Informan DMR, No.3)

“Harapannya anak bisa menyeleksi tontonan yang dilihat di ponsel.”
(Informan TA, No.7) – in Bahasa Indonesia

These quotations highlight that parents are not inherently opposed to the use of technology; rather, they aim to exercise discernment and ensure that its use contributes positively to their children’s well-being. These aspirations also point to the need for balanced supervision and clear usage guidelines that are aligned with educational and developmental objectives.

Limitation of alternative activities in the child's environment

Many parents reported that when children lacked engaging alternatives, they consistently turned to mobile phones to occupy their time. This observation suggests that dependence on the device is shaped by both intrinsic factors related to the child’s developmental needs and extrinsic factors, such as limitations in the environment that fail to provide activities addressing the sensory and social needs of children with special needs.

“Dalam situasi tidak ada kegiatan, ponsel menjadi solusi karena tidak ada pilihan lain.” (Informan TA, No.7)

“Saat berada di luar rumah (mengiringi keluarga), anak meminta ponsel karena tidak ada kegiatan lain.” (Informan RS, No.17)

“Kalau sudah capek main HP, bisa berhenti sendiri; tapi seringnya ponsel dipakai karena alternatif sedikit.” (Informan S, No.16) – in Bahasa Indonesia

Adequate social and sensory activities are essential for a child’s development. A lack of such activities may lead children to rely on mobile phones as their primary source of entertainment and emotional comfort.

DISCUSSION

The findings of this study indicate that nomophobia in children with special needs (CSN) extends beyond mere technology addiction, reflecting a complex psychosocial dynamic. Mobile phones serve a dual role, functioning both as a source of comfort and distraction, while also acting as an educational aid integral to the child’s daily life. This aligns with Erikson’s psychosocial theory (19), which emphasizes that children require a secure environment to develop trust and autonomy. When parental figures are replaced by digital devices as sources of emotional support, children may develop emotional dependence, with the mobile phone becoming an external source of psychological sustenance.

The anxiety experienced by children when separated from their mobile phones illustrates the emotional component of nomophobia, as described by Yildirim and Correia (1), who define it as a fear of losing connection to a device that has become an extension of the self. In CSN, this attachment is intensified because the phone provides stability and a sense of security often difficult to achieve through typical social interactions. This observation is consistent with King et al. (20), who noted that excessive mobile phone use can serve as a self-soothing mechanism to regulate emotions when internal self-regulation capacities are limited.

Supporting this, Bhattacharya et al. (21) suggest that losing access to a mobile phone can provoke emotional responses similar to mild to moderate anxiety, reflecting a phobia-like reaction. Sallam et al. (22) further reported a link between nomophobia and difficulties in recognizing or expressing emotions (alexithymia) among students with learning disabilities, reinforcing the role of emotional factors in mobile phone dependence.

Behaviorally, dependence on mobile phones is evident in children’s difficulty detaching from the device and their tendency to prioritize it over other activities. Self-Determination Theory (9) explains this phenomenon by highlighting the need to satisfy three psychological requirements: autonomy, competence, and relatedness. When the environment does not provide sufficient opportunities for children to feel competent or socially connected, they often turn to alternative sources of fulfillment, such as digital games and interactive videos. Arpaci (5) also notes that mobile phone dependence frequently emerges as compensation for unmet psychological needs, particularly among children experiencing social or emotional challenges.

Parental influence emerged as a significant factor shaping mobile phone usage patterns. Inconsistent supervision, even when well-intentioned, may create ambiguity about usage boundaries, consistent with Bartwal and Nath (6), who observed that permissive parenting and minimal communication increase the risk of technology-addictive behaviors. Conversely, dialogic and participatory supervision fosters a more balanced understanding of the phone’s role, positioning parental involvement as a mediator between emotional needs and technology use.

Parents’ perceptions of mobile phones often exhibit ambivalence. While the devices are recognized as educational and communicative tools, they are also viewed

as potential obstacles to social interaction, reflecting the "technology paradox" described by Gürbüz and Özkan (14). This ambivalence is particularly salient in families with CSN, where parents' work obligations may make the phone a substitute for direct supervision.

Environmental factors further shape this dynamic. Bronfenbrenner's ecological systems theory underscores that child behavior results from interactions between individual and environmental systems. Limited opportunities for social, outdoor, or sensory activities can lead children to rely on mobile phones as a readily available alternative. Yildirim (12) similarly highlighted that environmental availability of play spaces and family support significantly influences mobile phone use intensity among children and adolescents.

Technical constraints and the need for digital support indicate that some parents feel insufficiently equipped to supervise their children effectively. This underscores the importance of digital parenting literacy, as emphasized by Aljomaa et al. (23), with parents' ability to use supervisory features, educational applications, and time limits mitigating the risk of nomophobia. School- or community-based support has been shown to strengthen families' digital literacy. Fadzil et al. (8) also noted that early unrestricted exposure to gadgets increases the likelihood of emotional dependence.

Finally, excessive mobile phone dependence may negatively affect social skills and multiple intelligences, highlighting the critical role of parental regulation and supervision in fostering balanced development (24). Bragazzi and Del Puente (25) further suggested that nomophobia warrants recognition as a psychopathological condition in the DSM, illustrating its clinical implications for mental health beyond mere technological habit.

CONCLUSIONS

The findings of this study indicate that nomophobia in children with special needs arises from a complex interplay of emotional factors, parenting practices, perceptions of technology, and environmental conditions. Mobile phones serve both as a source of psychological comfort and as a tool for social adaptation, yet they carry the potential for dependence if use is not appropriately guided. The relationship between the child and the mobile device represents a learned form of self-regulation, with the device acting as a proxy for fundamental needs such as affection and social interaction. Thus, nomophobia in children with special needs should not be regarded solely as an individual issue, but rather as a reflection of broader family dynamics and the surrounding social ecosystem. This study emphasizes the critical role of proactive parental involvement in guided digital mentorship, alongside the need for systemic support to provide alternative activities that meet the unique needs of children with special needs. In conclusion, nomophobia in this population reflects an adaptation to the evolving digital culture, requiring a careful balance between harnessing the benefits of technology and fostering strong human relationships within the family environment.

CONFLICT OF INTEREST

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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DECLARATION OF ARTIFICIAL INTELLIGENCE USE

We hereby confirm that no artificial intelligence (AI) tools or methodologies were utilized at any stage of this study, including during data collection, analysis, visualization or manuscript preparation. All work presented in this study was conducted manually by the authors without the assistance of AI-based tools or systems.

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