Hard and Soft Skills Revisited: Journalism Education at the Dawn of Artificial Intelligence

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Abstract

This study examines the evolving landscape of journalism in the context of Artificial Intelligence (AI) integration and its implications for journalism education. The purpose of this article is to investigate how AI is redefining both the hard and soft skills required by journalists, necessitating an updated educational curriculum that balances technical skills with foundational journalistic values, employing a comprehensive literature review as its methodology. The importance of this research lies in its potential to guide educational institutions in preparing journalists to navigate the challenges and opportunities presented by AI in news production effectively. As AI transforms journalism by automating tasks and enhancing data analysis, it requires journalists to develop a new skill set that includes advanced data journalism capabilities and maintains the core journalistic values of ethical discernment, critical thinking, and emotional intelligence. This article advocates for a multidisciplinary curriculum that not only equips journalists with AI technical knowledge but also emphasizes ethical judgment and creativity. It concludes with a call for collaboration among educators, technologists, and industry practitioners to forge an educational environment that prepares journalists for an AI-enhanced media landscape.

Keywords: Journalism Education, Artificial Intelligence, Hard and Soft Skills

Mesleki ve Sosyal Beceriler Yeniden Değerlendiriliyor: Yapay Zekanın Şafağında Gazetecilik Eğitimi

Özet

Bu çalışma, Yapay Zeka (YZ) entegrasyonu bağlamında gazeteciliğin değişen manzarasını ve bunun gazetecilik eğitimi üzerindeki etkilerini incelemektedir. Bu makalenin amacı, yöntem olarak kapsamlı bir literatür taraması kullanarak, teknik becerileri temel gazetecilik değerleriyle dengeleyen güncellenmiş bir eğitim müfredatı gerektiren yapay zekanın gazetecilerin ihtiyaç duyduğu hem teknik hem de sosyal becerileri nasıl yeniden tanımladığını araştırmaktır. Bu araştırmanın önemi, gazetecileri haber üretiminde yapay zekanın sunduğu zorlukları ve fırsatları etkili bir şekilde ele almaya hazırlama konusunda eğitim kurumlarına rehberlik etme potansiyelinde yatmaktadır. YZ, görevleri otomatikleştirerek ve veri analizini geliştirerek gazeteciliği dönüştürürken, gazetecilerin gelişmiş veri gazeteciliği yeteneklerini içeren ve etik muhakeme, eleştirel düşünme ve duygusal zeka gibi temel gazetecilik değerlerini koruyan yeni bir beceri seti geliştirmelerini gerektirmektedir. Bu makale, gazetecileri yalnızca YZ teknik bilgisiyle donatmakla kalmayıp aynı zamanda etik muhakeme ve yaratıcılığı da vurgulayan multidisipliner bir müfredatı savunmaktadır. Makale, gazetecileri YZ ile geliştirilmiş bir medya ortamına hazırlayan bir eğitim ortamı oluşturmak için eğitimciler, teknoloji uzmanları ve endüstri uygulayıcıları arasında işbirliği çağrısı ile sona ermektedir.

Anahtar Kelimeler: Gazetecilik Eğitimi, Yapay Zeka, Meslek ve Yaşam Becerileri

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1. Introduction

Today, the way news is done is changing rapidly. This is mainly because of new technology like Artificial Intelligence (AI) (Rouhiainen, 2018). AI is making a big difference in journalism (Stray, 2021). It helps journalists in several ways, such as doing boring tasks automatically, using data to find stories, and telling stories in new and interesting ways. By using clever computer programs, AI can even write news articles, make videos or podcasts, and create pictures. This means news can be delivered faster and in a way that interests you more (Broussard et al., 2019a).

These changes, however, also bring up some important questions. For example, some people worry that AI might replace journalists altogether (Yu & Huang, 2021). Others are concerned that AI-written news might not be accurate or truthful (Henestrosa et al., 2023). There are also questions about whether it's okay for machines to write the news. As AI starts doing more and more of the jobs(Huang & Rust, 2018) journalists used to do, like writing articles and finding patterns in data, it makes us think about how important human creativity is compared to how efficient machines can be in journalism.

This article explores how AI is potentially shaping journalism education by impacting the hard and soft skills required for the journalism profession. AI's proficiency in managing vast data sets and rapidly generating content suggests a shift towards a more technologically adept curriculum (Seldon et al., 2020). This capability allows for broader story coverage and diverse storytelling methods. Furthermore, AI's ability to unearth patterns within extensive data could revolutionize investigative journalism education, pushing for stronger data journalism skills (Stray, 2021). Additionally, the personalization of news through AI tools indicates a need for future journalists to understand and engage with audience analytics deeply, tailoring content to individual preferences and sustaining reader interest.

Even with all this new technology, journalists are still important. Things like knowing what's right and wrong, thinking critically, and understanding emotions are all essential for reporting the news. Journalists can add details, background information, and a deeper meaning to stories (Fleming, 2006), which is something machines can't do. They also make sure the news is accurate, unbiased, and tells the story from different points of view.

Since AI is becoming a bigger part of journalism, what journalists need to learn is changing too. Journalism schools now face a challenge: how to teach students both new technical skills and important personal qualities. These technical skills include understanding data and using digital tools well. The important personal qualities include strong ethical judgment and being creative. By learning both of these things, future journalists will be able to use AI tools effectively while still reporting the news honestly and in a way that feels human, which are essential parts of being a good journalist (Jamil, 2021).

In summary, AI is a whole new area for journalism, with exciting possibilities to do things differently and save time. However, it also raises questions about what's right and wrong, and how journalists will work in the future (Picard, 2015). This means we need to be careful about how we use AI in journalism. We should take advantage of what AI can do, but we also need to make sure the news stays accurate, fair, and tells all sides of the story (Davenport, 2018). As things change, our goal shouldn't be to replace journalists with machines. Instead, we should use technology to help journalists do their jobs even better, not control what they do. The purpose of this article is to investigate how AI is redefining both the hard and soft skills required by journalists, necessitating an updated educational curriculum that balances technical skills with foundational journalistic values.

2. Methodology

Building on existing knowledge is a fundamental aspect of all academic research across various disciplines. It is essential for academics to engage with this process carefully and accurately. Yet, this task is becoming increasingly complicated. In the realm of research, the production of knowledge is advancing rapidly, yet remains scattered and covers multiple disciplines. This rapid development makes it challenging to stay updated with the latest research and to lead in any particular area, as well as to evaluate the overall evidence within a specific field. Given these complexities, the literature review has become more crucial than ever as a research method. Essentially, a literature review involves a systematic approach to collecting and synthesizing prior research (Snyder, 2019)

The main aim of this literature review is to deeply understand how Artificial Intelligence (AI) influences journalism, focusing specifically on our research question: How is AI shaping the hard and soft skills necessary for journalism education? As we adopted systematic review in the study, a systematic literature review (SLR) involves identifying, selecting, and critically evaluating research to answer a specific, clearly formulated question (Dewey & Drahota, 2016). We intend to uncover the latest trends, identify missing pieces in current research, and explore various viewpoints on AI's role in supporting journalists' tasks and the evolving skills they need to navigate the AI era. To gather a broad spectrum of insights, we utilized several academic databases, searching with keywords such as "Artificial Intelligence in journalism," "AI and media," "automation in news production," "data journalism," and "ethical implications of AI in journalism." Our search was limited to materials published mostly in the last decade to ensure we're drawing from the most current and relevant discussions about AI's impact on journalism. Selection was based on how directly sources address our research question, their influence in the academic and professional realms, and the diversity of perspectives they offer.

3.The Impact of AI and Technology on Redefining Hard and Soft Skills

3.1. Redefining Hard Skills

In the past, journalists mostly needed to be good at interviewing people and writing stories. Now, they also need to know how to use data and technology. This includes things like analysing data, using computer programs, and even using AI tools to find stories and write reports. In the future, journalists will need to be just as good with computers as they are with writing.

3.1.1. Data Literacy

As Artificial Intelligence transforms journalism, the skills journalists need are changing too. One of the most important skills now is understanding data (Mikalef et al., 2018). This is because journalists are using more and more data to find stories, report the news, and even tell their stories (Bradshaw, 2017a). Since there's so much data available now, being able to analyse and understand it is just as important as the traditional skills of reporting, like interviewing people and writing well.

Understanding data is a big part of being a journalist these days (Bradshaw, 2017b). This means knowing how to find information that's available online, using special tools to dig deeper into that information, and figuring out patterns and trends hidden within the data. Journalists also need to be critical thinkers when it comes to data (Fourie, 2011). They need to ask questions about where the data comes from and whether it might be biased or incomplete. This way, they can be sure the stories they write based on data are accurate.

While understanding data is a great skill for journalists, it can also be tricky. They need to learn both the traditional reporting skills and how to analyse data(Burns & Matthews, 2018). This can be a lot to learn! News companies and schools can help by offering classes and workshops on data analysis (Song & Zhu, 2016). They can also give journalists access to special software that helps them work with data. By providing these resources, journalists can learn the new skills they need to keep up with the changing world of news.

There's even more new technology being used in journalism, like artificial intelligence (AI). This can be used for things like automatic reports, understanding large amounts of text, and even predicting what news might be important in the future (Song & Zhu, 2016). While this allows journalists to tell stories in new and interesting ways, there are also some things to consider. For example, it's important to be transparent about how AI is used and to make sure the stories are still accurate (Davenport & Miller, 2022). Journalists also need to think about whether AI might take away some of their jobs. Overall, understanding data and new technology is important, but journalists also need to think carefully about how these tools are being used.

These studies show that understanding data is becoming one of the most important skills for journalists today (Kõuts-Klemm, 2019). This is because more and more news stories are based on data, not just what people say. With new technology like AI being used in journalism, this skill will only become more important. By being good with data, journalists can find new stories, make sure their reporting is accurate, and connect with readers in new ways. However, it's important for journalists to remember the core values of their profession, like being honest and transparent, even when using new technology (Koliska, 2021).

3.1.2. Advanced Technical Proficiency

Today's journalists need more than just a pen and notebook. They must be comfortable using all sorts of digital tools. This is because the news business has gone digital, and journalists now gather information, create stories, and share them online in many ways (Foust, 2017). Learning these new skills isn't just about keeping up with the times; it's about making their stories more interesting, grabbing readers' attention, and getting their work seen by as many people as possible.

The news business is going through a big change these days, and it's all because of new technology like artificial intelligence (AI) and data analysis tools. Journalists need to be much more comfortable with computers now, not just know how to use basic programs(McGregor et al., 2015). This new technology isn't just giving them fancy new tools; it's changing how they find stories, analyse information, and even present the news to the public. This means they can tell stories in more interesting ways, connect with readers better, and get the news out to people faster.

One big change is how journalists use special tools powered by Artificial Intelligence (AI) to understand giant sets of data. These tools can find patterns and hidden information much faster than ever before. This lets journalists predict what kind of stories people are interested in, make their content more engaging, and even find news stories that are just starting to happen (McGregor et al., 2015). But it's important for journalists to learn how these tools work and to double-check the information they get from them (Lecheler et al., 2019). This means journalists need new computer skills to use these AI tools effectively.

There are also programs that can automatically write some news reports, freeing up journalists for more important stories that take time to investigate (Van Dalen, 2012). However, it's important to be careful with these programs. Journalists need to understand

how they work and make sure the information they put in is accurate. This way, the automatic reports will be reliable and trustworthy, just like any other news story.

People want news in more ways than ever before, like videos, podcasts, and interactive stories (Kolodzy, 2012). This means journalists need to be good at making these different types of content. They might even use new technology like virtual reality to make their stories even more interesting. Learning these new skills takes time and creativity, but it allows journalists to tell stories in ways that grab people's attention.

There are some downsides to journalists needing to learn so many new computer skills. First, it can be hard to keep up with all the latest technology. New tools and programs seem to come out all the time! This means journalists need to be lifelong learners, always willing to take classes and learn new things (Saadia & Naveed, 2023). Second, not all news organizations have the money to buy all this new technology. This could create a bigger gap between big news companies and smaller ones. Finally, journalists need to think carefully about how they use these new tools. It's important to be ethical and responsible when using new technology (Van de Poel & Royakkers, 2023).

With all this new technology like AI, automation programs, and different ways to present the news, journalists need to learn more computer skills than ever before. These skills allow them to tell stories in new and interesting ways, get information out faster, and make their reporting more accurate. However, it's important for journalists to keep learning new things and to think carefully about how they use these tools. As technology keeps changing, journalists who can adapt and use these tools well will be the ones who help shape the future of news and make sure it stays a trusted source of information for everyone.

3.1.3. Digital Publishing Skills

In today's digital world, journalists need to be good at more than just reporting the news (Glasser & Marken, 2006). They also need to know how to get their stories seen online. This means understanding how search engines work (Search Engine Optimization), using social media effectively, and putting their stories on the right websites and apps (Giomelakis & Veglis, 2015). By doing this, journalists can make sure their work reaches the people they want to reach and has a bigger impact.

One of the most important tools journalists need to know about is SEO. This stands for 'Search Engine Optimization' and it's all about getting their stories to show up at the top of search results. By understanding SEO, journalists can write stories that people are searching for online and use keywords that people are likely to type in (Codina et al., 2016). They can also structure their stories in a way that search engines like Google can understand easily. This is important because if people can't find your story online, they won't be able to read it (Watson, 1998). As search engines keep changing, journalists need to keep learning new SEO tricks to make sure their work stays easy to find.

Social media is another key tool for journalists today. Different platforms like Facebook, Twitter, and Instagram all have their own audiences and what works on one might not work on another(Larsson, 2018). Journalists need to know how to use each platform effectively (Mellado & Alfaro, 2020). This means using the right hashtags, talking to readers in the comments, and seeing how well their posts are doing. By using social media well, journalists can get their stories in front of more people and even build relationships with their readers. This turns readers from just people who see the news to people who are actually involved in the conversation.

There are many other ways for journalists to get their stories out there besides SEO and social media. They can use email newsletters, video platforms, and other websites. Each way has its own advantages. For example, some readers might prefer to get the news in their email, while others might watch videos instead (Kormelink & Meijer, 2018). Journalists can take one story and rewrite it in different ways for each platform. This way, more people will see their work. The challenge is to stand out from all the other information online. Journalists need to come up with new and creative ways to present their stories and get people to pay attention (Maiden et al., 2018).

To sum up, journalists need to be more than just good storytellers. They also need to be good at getting their stories seen online. This means understanding SEO, using social media well, and putting their work on the right websites and apps. As the internet keeps changing, journalists need to keep learning new things to make sure people can find their work. By doing this, journalists can make sure their important stories reach the people they want to reach and have a big impact on the world.

3.2. Evolving Soft Skills

Even though AI is changing the way news is made and how people get their news, some things are still important for journalists. These are the things that people can do, but computers can't. For example, journalists need to be able to understand how people feel, think critically about information, and decide what's right and wrong. In a world full of data and algorithms, these skills are more important than ever. This section will talk about these skills and why they are important for journalists in the digital age.

3.2.1. Ethical Considerations in AI Use

New technology like Artificial Intelligence (AI) is being used more and more in journalism (Broussard et al., 2019b). This raises some ethical questions. For example, how can journalists make sure their reporting is fair and accurate when some of the work is being done by computers? AI can be biased, and journalists need to be careful about this. Even with all this new technology, it's important for journalists to follow core principles like fairness and objectivity (Muñoz-Torres, 2012).

There's another concern with AI in journalism: bias. AI programs are trained on a lot of data, and if that data isn't fair, the AI program might be biased too (Das et al., 2015). This could lead to stories that aren't accurate or that stereotype certain groups of people. Journalists need to be careful about this and only use AI tools in a way that's fair and unbiased. Another issue is who's responsible if an AI story is wrong? Journalists need to figure out a way to make sure all stories, even the ones made with AI, are accurate and fair (Zweig, 2022).

So, how can journalists deal with these concerns about AI? First, they need to learn as much as they can about how AI works and how it might affect journalism (Komatsu et al., 2020). This could mean talking to experts in technology, ethics, and even the public. By understanding the threats and opportunities, journalists can make better choices about when and how to use AI tools. Most importantly, journalists need to think carefully about whether AI helps them tell a story in a fair and accurate way (Marconi, 2020). If it doesn't, they shouldn't use it.

There are also some rules journalists need to follow when using AI(Jamil, 2023). These rules would help make sure AI is used fairly and accurately. These rules might say things like how data is collected, who is responsible for mistakes made by AI, and how to avoid stories that are biased. Journalists, technology experts, and people who study ethics all need to work

together to create these rules. This way, AI tools can be used in a way that helps people and follows the core principles of good journalism.

In the age of AI and new technologies, journalists must acquire new computer skills and thoughtfully consider their application of these tools. AI can be biased, so journalists need to be extra careful to make sure their stories are fair and accurate(Roselli et al., 2019). There are also some rules that need to be created about how to use AI in journalism. If journalists can learn these new skills and follow the rules, then AI can be a great way to help them tell important stories to the public.

3.2.2. Emotional Intelligence

AI automates tasks in journalism, but emotional intelligence (EI) remains crucial. EI allows journalists to connect with audiences on a deeper level. Empathy and understanding human emotions are irreplaceable human qualities in journalism (Escudero et al., 2023). Even with new technology like AI helping journalists do some tasks, there's still one skill that a computer can't replace: emotional intelligence (EI) (Osborne, 2022). This is the ability to understand your own feelings and the feelings of others(Reeves, 2005). It also means being able to tell stories in a way that connects with people on a personal level. Journalists need to be empathetic and understand the emotions of the people they are writing about. This is what makes a story interesting and memorable, and it's something a computer can't do.

Emotional intelligence (EI) isn't just about journalists understanding their own feelings and the feelings of others. It's also about using that understanding to tell stories that really matter to people. A journalist with high EI can take a story and tell it in a way that makes people feel something, like happiness, sadness, or anger. This can make the story more interesting and memorable for readers. EI is especially important for stories about sensitive topics or people's lives (Mayer & Salovey, 1995). If a journalist can tell these stories with empathy, people are more likely to care and understand what's happening.

There's so much news out there these days, it can be hard for people to know what to pay attention to (Williamson et al., 2012). Journalists with high EI can tell stories in a way that makes people interested and want to learn more. This emotional connection is important because it helps people trust the news source and remember the stories they read or hear. In a world with so much information, being able to connect with people on an emotional level is what makes journalism important.

Emotional intelligence (EI) is also important for journalists to make good decisions about their stories. It helps them think about how their reporting might affect the people they are writing about society. For example, a journalist with high EI might decide not to share someone's name if it could put them in danger. By being empathetic and thinking carefully about the consequences of their work, journalists can make sure their stories are important and responsible.

Even with all this new technology, some things can't be replaced. Journalists will always need to be able to understand their own feelings and the feelings of others (Dworznik, 2006). This is what lets them tell stories in a way that connects with people on an emotional level. While AI can do a lot of things, it can't feel emotions or make ethical decisions. This means that journalists and AI can actually work well together. AI can help journalists with some tasks, and journalists can use their emotional intelligence to tell great stories that people will care about.

The evidence reviewed here seems to suggest, there's one skill that's more important than ever: emotional intelligence (EI). This is the ability to understand your own feelings and the

feelings of others. Journalists with high EI can tell stories that people care about and remember. While AI can help with some tasks, it can't replace the human touch that good journalism needs. The future of journalism is bright as long as journalists can use AI tools and keep telling stories that connect with people on an emotional level.

3.2.3. Creativity and Innovation

New technology like Artificial Intelligence (AI) is changing the way journalists work. AI can now do some tasks that journalists used to do, like analysing data and writing basic reports. This frees up journalists to focus on the more creative parts of their job, like finding interesting stories and telling them in new ways. AI can also help journalists find new information and come up with new ideas for stories. This means that news stories can be more interesting and engaging for readers, and they can also give people a more complete understanding of what's happening in the world.

AI isn't just making journalism faster; it's also changing the way stories are told. Journalists can use AI to create new and exciting types of stories (Caswell & Dörr, 2018), like articles that change based on what you read, or even virtual reality experiences that put you right in the middle of the story. AI can also find hidden patterns in large amounts of data, which can give journalists new ideas for stories. And finally, AI can help journalists tailor stories to each reader's interests, which can make the stories more interesting and engaging.

Despite the advancements in technology, certain things remain irreplaceable. Journalists will always need to be ethical and tell stories that are fair and accurate. AI can be a great tool to help journalists find new stories and tell them in new ways, but it's important to use AI carefully. Journalists need to make sure the stories they create with AI are truthful and unbiased. In the future, the best journalists will be the ones who can use both their creativity and new technology to tell important stories in a way that people care about.

Undoubtedly, there should be an emphasis on revolutionizing the teaching and learning process within higher education institutions. This process should consistently nurture creative thinking, ensuring that creativity is embedded in all areas of study (Mačerauskienė, 2020). To achieve this transformation, a shift in educational paradigms is essential, focusing not just on the acquisition of knowledge but also on inspiring innovative thought; schools need to change how they teach. Journalists will need to know how to use AI and other new tools to tell stories. But they also need to be creative and think carefully about how they use these tools. News organizations that encourage creativity will be the ones that tell the best stories. This way, journalism can stay important and interesting in the future.

The essence of journalism continues to revolve around the art of storytelling. AI can free up journalists to be more creative and find new ways to tell those stories(Miroshnichenko, 2018a). These stories can be more interesting and engaging for readers, and they can help people understand the world around them better. The best journalism in the future will combine the power of AI with the creativity and good judgment of human journalists.

3.2.4 Lifelong Learning

The world of journalism is changing fast, with new technology appearing all the time. This means journalists need to keep learning new things their whole career (Baya, 2020). Not only are the tools and websites they use changing, but the rules of journalism are also changing. To stay on top of everything, journalists need to keep learning and adapting. This way, they can continue to do their jobs well and report the news in a fair and ethical way.

In addition to keeping up with the changing rules of journalism, journalists also need to learn about new technology. This includes things like AI, which can be used to find patterns in data or even write basic news reports. There are also new tools for creating stories, like software that lets you make videos or interactive graphics. By learning these new skills, journalists can tell stories in ways that are more interesting and engaging for readers.

Learning new things throughout their careers is also important (Loon, 2021) because it helps journalists come up with new ways to tell stories. By trying out new tools and thinking carefully about how to use them ethically, journalists can help keep journalism interesting and important in the future.

There are many ways for journalists to keep learning new things throughout their careers. They can take workshops, sign up for online courses, join groups with other journalists, and go to conferences. These resources can help journalists learn new skills, share ideas with other journalists, and find out about the latest developments in technology and ethics.

The journalism landscape is rapidly evolving, necessitating that journalists continually update their skills throughout their careers. This is particularly crucial in light of emerging technologies such as AI. By taking classes, going to workshops, and talking to other journalists, journalists can learn new skills and make sure they're reporting the news in a fair and ethical way. This will keep journalism strong and important for years to come.

4. Discussion

New technology like Artificial Intelligence (AI) is changing the way journalism works. AI can now do some tasks that journalists used to do, like collecting data, analysing information, and even writing basic reports. This frees up journalists to focus on more important stories and get the news out to people faster. AI can also help journalists find hidden patterns in data and create stories that are more interesting to specific readers.

There are a lot of good things about AI in journalism. For example, AI can help journalists find hidden patterns in large amounts of data. This can be helpful for investigative stories, where journalists need to look at a lot of information to find a story. AI can also create news reports quickly, which means people can find out about what's happening in the world faster. And finally, AI can recommend stories to people based on what they like to read, which can make the news more interesting for them.

However, there are also some worries about AI in journalism(Simon, 2024). Some people are concerned that AI will take away jobs from journalists(Miroshnichenko, 2018b). Others are worried that stories written by AI might not be accurate or truthful (Türksoy, 2022). There's also a concern that AI might miss important parts of a story, or that it might not be able to tell stories in a way that connects with people on an emotional level.

Even though AI is changing journalism in a lot of ways, there are both good and bad things about it. AI can help journalists do their jobs faster and find new stories, but it's important to make sure the stories are accurate and truthful. The best journalists in the future will be the ones who can use both AI and their own skills to tell stories that people care about.

5. Results

In conclusion, Today's journalism education does not fully align with the opportunities and potential that new communication technologies provide. Students are expressing a desire for

updates and changes to better prepare them for the present and future landscape of journalism education (Ercan, 2018). The call to action for educators, journalists, and technologists to collaborate in redefining journalism education is a response to the transformative impact of AI on the media landscape. By working together, these stakeholders can create an educational environment that prepares students not just to survive but to thrive in the AI era, leveraging technology to enhance reporting while upholding the integrity and social responsibility that are the hallmarks of the profession. This collective effort is essential for ensuring that journalism continues to serve its vital role in society, informed by technology but driven by the enduring importance of the human element.

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