International Journal of Arts and Social Science www.ijassjournal.com
ISSN: 2581-7922,
Volume 9 Issue 8, August 2026

"MIND IN THE SHADOW OF THE ALGORITHM: THE DESKILLING OF WHITE-COLLAR LABOR IN THE AGE OF GENERATIVE ARTIFICIAL INTELLIGENCE"

Ebru Erbudak
ORCİD: 0009-0006-2332-6566
(GSM: 0534 766 71 82)

ABSTRACT: Adopting a sociotechnical perspective on the processes of deskilling and proletarianization emerging within white-collar labor alongside the global dissemination of generative artificial intelligence technologies, this study examines the contemporary manifestations of the transformation of manual labor from early industrial capitalism within the realms of cognitive and knowledge production. This transformation necessitates a reassessment of traditional concepts of expertise, professional autonomy, and automation bias through a layered perspective. Rather than collecting direct empirical field data, the study was conducted through a conceptual and intertextual analysis method based on historical labor theories, the technical anatomy of artificial intelligence, and the routinization of knowledge production processes within the framework of critical labor literature and conceptualizations of digital alienation. The findings of the study indicate that macro-level algorithmic capital accumulation regimes transform meso-level white-collar work processes, leading to the complete exclusion of knowledge workers from decision-making mechanisms at the micro-level and the liquidation of the traditional "master-apprentice" relationship. Furthermore, it is argued that artificial intelligence harbors a deepening dynamic of substitution and proletarianization rather than serving as an "augmentation" tool. Consequently, the study reveals the necessity of reclaiming cognitive autonomy and developing a collective labor consciousness against algorithmic domination.

Keywords: White-Collar Labor, Digital Alienation, Automation Bias, Proletarianization, Generative Artificial Intelligence, Deskilling.

I. INTRODUCTION

Since the early twenty-first century, global capitalist production regimes have entered a new phase of transformation driven by the radical momentum of digitalization and artificial intelligence technologies. Unlike the mechanical automation waves of industrial capitalism, today's generative artificial intelligence (Generative AI) systems and large language models (LLMs) target not only physical manual labor but also mental and cognitive labor processes that were long assumed to be inaccessible to capital. White-collar occupational fields—such as software engineering, law, academia, finance, and the creative industries—which traditionally harbored high levels of autonomy, professional expertise, and decision-making authority, face structural erosion in the

shadow of algorithmic systems. This situation demonstrates that the image of the "emancipated knowledge worker" promised by the information economy has instead been replaced by a deepening process of proletarianization and deskilling.

This transformation invalidates technological determinist assumptions that technology is a neutral instrument of progress. On the contrary, as Shoshana Zuboff (2019) notes in her conceptualization of surveillance capitalism, digital infrastructures and artificial intelligence systems are novel apparatuses of domination that expand capital's accumulation mechanisms through the datafication of human experience and mental outputs. Historically formulated by Harry Braverman (1974) in his groundbreaking work *Labor and Monopoly Capital* through the fragmentation of industrial manual labor and the expropriation of craft knowledge by capital, the deskilling thesis is reproduced today in the context of the cognitive expropriation of white-collar labor. Knowledge workers lose their former artisan autonomy, being reduced to "prompt operators" or quality control inspectors who merely monitor algorithmic outputs.

Concurrently, in mainstream economic and technological literature, generative AI is frequently presented as an "augmentation" tool, touted as a neutral assistant that enhances workers' productivity. However, this optimistic discourse ignores structural inequalities in human-machine interaction and psychosocial mechanisms such as "automation bias." The dynamics of ghost work, examined by Mary L. Gray and Siddharth Suri (2019), reveal that behind the myth of artificial intelligence autonomy lies billions of data-labeling, text-cleaning, and debugging processes carried out by precarious, flexible, and invisible digital workers. In this context, the white-collar identity is dissolving, and a new class of digital precariat is emerging.

The primary aim of this article is to examine the transformative effects of generative AI technologies on white-collar labor within a critical theoretical framework, illuminating the dialectical link between capital accumulation regimes and the routinization of knowledge production processes. Drawing upon the axes of historical labor theories, digital alienation, and automation bias, this study argues that artificial intelligence harbors a deepening mechanism of substitution and domination rather than serving as an augmentation tool. In the subsequent sections of the article, the theoretical legacy of the transition from industrial to cognitive labor, the modes of routinizing knowledge production through generative AI, and the processes of automation bias and the proletarianization of white-collar workers will be addressed in detail, respectively; while the final section will discuss the liquidation of the master-apprentice relationship and the crisis of expertise.

II. METHODOLOGY

In this study, a literature-focused, systematic review and conceptual analysis strategy was adopted to analyze the processes of deskilling, proletarianization, and digital alienation emerging within white-collar labor alongside the proliferation of generative artificial intelligence technologies in the late capitalist order and algorithm-based digital transformation phase. Rather than employing a quantitative or qualitative research design based on collecting direct empirical field data, the study is founded on the structured examination of existing sociological and economic literature, filtering it through a critical lens, and achieving an intertextual, comparative synthesis. Internationally recognized and prestigious academic databases were utilized during the compilation of the literature. Accordingly, searches were conducted across Web of Science, Scopus, Google Scholar, JSTOR, and Sociological Abstracts platforms using designated core concepts and search combinations ("generative artificial intelligence", "deskilling of white-collar labor", "cognitive labor", "automation bias", "digital alienation", "algorithmic management"). Furthermore, to capture the universal dimension of debates surrounding global capitalism and digital labor independent of geographical limitations, relevant regional and international critical labor literature was also integrated into the process. Specific selection criteria were observed in determining the studies to be included in the review. Accordingly, only peer-reviewed journal articles, academic books, book

chapters, or indexed scientific outputs were subjected to analysis. To track the contemporary dynamics of the information economy and generative AI, priority was given to recently produced contemporary works (e.g., Casilli, 2019; Zuboff, 2019; Gray & Suri, 2019). Simultaneously, foundational classical works that establish the theoretical bedrock of the sociology of labor, digital capitalism, and political-economic critique (Marx, 1976; Braverman, 1974) were integrated into the research scope without any chronological restrictions. Conversely, popular science articles, non-peer-reviewed blogs or corporate reports, and studies lacking a direct causal relationship with the research focus were excluded. These inclusion and elimination processes were structured to elevate the theoretical consistency level of the study and safeguard the scientific legitimacy of the analyzed literature. The obtained literature data was analyzed through thematic analysis and intertextual comparison techniques, and reinterpreted through a theoretical lens drawing upon Harry Braverman's deskilling thesis, Shoshana Zuboff's conceptualization of surveillance capitalism, and Antonio Casilli's digital labor literature. The primary objective in this analytical process is to establish an original conceptual context among macro-level algorithmic capital accumulation regimes, meso-level institutional knowledge production processes, and micro-level knowledge workers' cognitive autonomies, thereby providing a holistic and dialectical explanatory model regarding the forms of domination exerted by generative AI over white-collar labor. In alignment with this philosophical and sociological model construction, this study relies on an original intertextual analysis paradigm that articulates the analyses of the sociology of labor, digital political economy, and sociotechnical systems. The core problematics focused upon by the study are the semantic and structural erosion suffered in practice by the promise that digitalization and artificial intelligence "empower (augment) the knowledge worker." To fill this emerging theoretical gap, the study implemented a layered synthesis model aiming to transcend static theoretical boundaries. Throughout the analytical process, the approaches of Harry Braverman (1974), who centers capitalism's domination over labor processes, along with Shoshana Zuboff (2019) and Antonio Casilli (2019), who examine the dynamics of digital capitalism, were brought together on a methodological dialectical plane. The theoretical tensions and complementary elements emerging among these theoretical approaches were analyzed to yield an original intersection capable of explaining the new appearance of white-collar labor in late capitalism and the phenomenon of "automation bias." All sub-conceptual structures addressed within the scope of the study were selected according to their potentials to rescue generative AI from the perception of a simple "neutral technical tool" and elevate it to the level of a "class-based mechanism of domination" that establishes capital's hegemony in the cognitive sphere, and were subsequently placed within a critical theoretical framework.

III. CONCEPTUAL ANALYSES

The integration of large language models and generative algorithmic systems into global labor markets constitutes a qualitative turning point in the history of capital accumulation regimes. In the early phases of digitalization waves, information technologies were marketed as tools providing information workers with cognitive flexibility, computational ease, and creative support. However, today's generative artificial intelligence architectures have surpassed this instrumental role, evolving into structural mechanisms of domination that function to monitor, standardize, and expropriate mental labor. In the late capitalist order, capital tends to rationalize not only physical spaces and manual labor but also knowledge production processes, which constitute the most intimate realm of human consciousness. In this context, the phenomenon of the deskilling of white-collar labor cannot be read merely as a technological automation move; on the contrary, this process is the reproduction on a cognitive plane of the logic of the fragmentation of the labor process, whose roots extend back to the early stages of industrial capitalism. The professional autonomy and artisan identity constructed by knowledge workers over centuries are undergoing deep erosion in the face of algorithmic management strategies and data exploitation regimes. In the following sections, the theoretical foundations of this historical continuity, the dynamics of the routinization of knowledge production through generative AI, and the processes of automation bias and digital alienation emerging in human-machine interaction will be addressed through a layered conceptual analysis.

3.1. From the Deskilling of Industrial Labor to Cognitive Labor and Theoretical Legacy

The ascendance phase of industrial capitalism is a profound history of expropriation in which the production process was wrested from the hands of the artisan and transferred to machine systems and the rational control of capital. One of the most brilliant theoretical formulations of this historical process is the deskilling thesis put forward by Harry Braverman (1974) in his work *Labor and Monopoly Capital*. Braverman argued that the integrity between mental production and execution (manual labor) was deliberately fragmented through Taylorist division of labor and Fordist production lines. The primary objective of the capitalist accumulation regime is to eliminate the worker's self-control over the work process and craft knowledge (*tacit knowledge*), thereby reducing labor to a disposable and interchangeable input of capital. Viewed from this perspective, the analyses of machinery and fixed capital examined in detail by Karl Marx (1976) in *Capital* (Volume 1) reveal how the machine autonomizes itself against the worker as an "alien power." Marx defines the transformation of the working tool from serving the worker into an autonomous mechanism that harnesses the worker to its own service as an intrinsic contradiction of the capitalist mode of production.

The transformation experienced in today's information economy demonstrates that this classical theoretical framework has not lost its validity; rather, it has leaped into the cognitive sphere in a much more layered manner. The logic of rationalization and work fragmentation that targeted bench workers in factories in the past now encompasses software developers, lawyers, financial analysts, academics, and creative industry workers. The expropriation of cognitive labor is the process by which formal education, expertise, and intellectual accumulation possessed by knowledge workers are coded into algorithmic models by capital and thus taken away from the worker. In this context, knowledge workers experience the fate of proletarianization that past artisans suffered over centuries at a much faster tempo in the digital era. As Frank Pasquale (2020) notes, the intervention of algorithmic systems into professional fields is not merely a productivity increase, but also a long-term erosion of expertise; therefore, the preservation of human expertise is a vital arena of struggle. The automation of knowledge production processes liquidates the autonomy of mental labor and transforms the knowledge worker into positioned "cognitive manual workers" of digital factories. Tracing the theoretical track of this transformation, modern critical theorists (e.g., Huws, 2014; Srnicek, 2017) argue that digital platform capitalism and data extraction strip labor of its traditional securities, converting it into a global digital factory model.

3.2. Generative Artificial Intelligence and the Routinization of Knowledge Production Processes

The technical anatomy of generative AI technologies (particularly large language models and generative deep learning architectures) represents a new threshold that radically alters knowledge production processes. While past automation waves substituted only repetitive, routine administrative and numerical tasks (such as accounting calculations or simple data entry), today's generative models target fields requiring high levels of cognitive competence, such as legal text analysis, complex software coding, strategic business reporting, and academic text synthesis. Moreover, while generative AI systems do not possess a genuine conceptual comprehension or original capacity for understanding, they function as "stochastic parrots" that imitate statistical patterns across massive datasets (Bender et al., 2021). Classical labor market models formulated by Autor, Levy, and Murnane (2003), which argue that routine tasks are most susceptible to automation, are in need of updating in the face of generative AI's capacity for "routinization" (beyond routine-biased technological change). Artificial intelligence standardizes even non-routine cognitive tasks by reducing them to statistical patterns over large datasets and automates them under the guise of "routinization." This phenomenon confirms theses built by Frey and Osborne (2017) on computerization probabilities, proving that even high-skilled occupations are exposed to an algorithmic standardization crisis.

This situation radically transforms the function and position of the knowledge worker. The knowledge worker ceases to be an original content creator, conceptual architect, or problem solver; they are reduced to "prompt operators" or quality control inspectors who monitor, evaluate, and guide the massive volumes of text, code, or data generated by artificial intelligence. Algorithmic management practices (Woodcock, 2021) determine the speed, standard, and direction of work processes independently of human decisions. Furthermore, this process harbors one of the most striking contradictions of digital capitalism: all intellectual outputs previously produced by white-collars and creative labor owners are exploited as "free raw material" (*data extraction*) to train machine learning models. Capital transforms the accumulation and mental history of the knowledge worker into a weapon to substitute that very worker and break their bargaining power. In this context, the algorithmization of knowledge production processes paves the way for a centralist transfer of cognitive rent in favor of capital.

3.3. Automation Bias, Proletarianization of White-Collars, and Digital Alienation

In this new phase where human-machine interaction deepens, psychosocial and structural fractures between technology and working individuals also become prominent. One of the most critical theoretical and empirical indicators of these fractures is the phenomenon conceptualized as "automation bias" in cognitive psychology and human-computer interaction literature. Comprehensively examined by Parasuraman and Manzey (2010), automation bias refers to the tendency of human users to accept the outputs of computerized or algorithmic systems as absolute truths, independent of their own critical filter, empirical data, or intuitive reasoning. The high linguistic fluency and persuasiveness of generative AI systems (despite their capacity to produce "hallucinations") increase the likelihood of knowledge workers falling prey to this bias. Workers suspend their own critical thinking faculties in the face of the algorithm and transform into passive submissives of digital authority. Furthermore, the continuous measurement and monitoring of knowledge workers' work processes with digital tools eliminate subjectivity in the workplace, creating a new regime of subjugation (Moore, 2019). This psychosocial tendency accelerates the processes of proletarianization and digital alienation among white-collars. Fuchs (2020) and Mosco (2014), who work on the manifestations of Marx's theory of alienation in the digital era, have revealed how the knowledge worker becomes alienated from the digital tools and platforms they produce and becomes an object of their own mental products. The dominant technological myth that artificial intelligence is "autonomous, flawless, and neutral" thickens this curtain of alienation even further. On the other hand, behind this flawless automation rhetoric lies a massive exploitation of invisible human labor. As meticulously documented by Mary L. Gray and Siddharth Suri (2019) in their work *Ghost Work*, the "miraculous" outputs of artificial intelligence systems harbor precarious, flexible, and low-paid digital micro-laborers who carry out millions of data labeling, text cleaning, content moderation, and debugging activities behind the scenes. While a portion of white-collars undergoes algorithmic deskilling, another segment transforms into a new digital precariat class stripped of rights securities to keep this artificial intelligence ecosystem afloat (Standing, 2011). This dialectical contradiction clearly proves that the price of the comfort offered by generative AI is plunging all labor segments into a deepening spiral of domination and expropriation.

3.4. Algorithmic Management and Data Extraction Regimes of Knowledge Labor

The most critical threshold in the siege of white-collar labor by generative AI technologies is the abandonment of work processes from traditional hierarchical control mechanisms entirely to "algorithmic management" practices. As Woodcock (2021) points out, digital platforms and smart work tools monitor the work speed, productivity, and outputs of the knowledge worker directly through data flows, independently of the will of human managers. This situation is the integration of the process of obtaining "behavioral surplus," noted by Shoshana Zuboff (2019) in her conceptualization of surveillance capitalism, into white-collar offices and work-from-home regimes. Every second knowledge workers spend in front of computer screens, every line of code they write, or every text draft they prepare transforms into raw materials integrated by capital into the accumulation chain.

In this context, as detailed by Antonio Casilli (2019) in digital labor literature, every micro-trace left by users and knowledge workers on digital platforms is actually a free data mining input that trains artificial intelligence models and is ultimately used to substitute that very worker. Capital not only monitors knowledge labor instantaneously; it also expropriates all past intellectual accumulation and mental history of the worker through data extraction. While this process reproduces the fixed capital accumulation of the capitalist mode of production in the information economy along the axis of "cognitive rent," it turns the knowledge worker into a flexible and precarious subject of digital factories.

IV. DISCUSSION

The line stretching from the industrial production benches of the twentieth century to the large language models of the twenty-first clearly demonstrates that capital's motivation to rationalize and control labor processes has not changed in essence; rather, it has leaped into the cognitive sphere by gaining a qualitative dimension. In this context, the effects of generative artificial intelligence technologies on white-collar labor produce a deep crisis centered around the liquidation of traditional forms of expertise, the coding of craft knowledge (*tacit knowledge*) into algorithmic models, and the systematic exclusion of information workers from decision-making processes. When the optimistic discourse of mainstream economic literature and the technology industry—which presents artificial intelligence as a neutral "augmentation" tool—is filtered through critical labor theory, it directly aligns with the mechanisms of late capitalist accumulation regimes to centralize cognitive rent and expropriate mental labor. The reproduction today of the deskilling thesis formulated by Harry Braverman (1974) for industrial manual labor in a way that encompasses software developers, lawyers, academics, and financial analysts in the information economy is the manifestation of the essential contradictions of the capitalist mode of production in the digital era. This transformation, shaped along the axis of Shoshana Zuboff's (2019) conceptualization of surveillance capitalism and Antonio Casilli's (2019) digital labor literature, reveals that human experience and mental outputs are sacrificed to data exploitation. Therefore, how macro-level algorithmic capital accumulation regimes subvert meso-level institutional work processes and micro-level knowledge worker subjectivity is discussed in-depth in the following sections.

4.1. Crisis of Expertise and the Liquidation of the "Master-Apprentice" Relationship

White-collar fields, which traditionally harbor high levels of autonomy, formal education, and professional expertise in the information economy, face an unprecedented crisis of expertise with the integration of generative artificial intelligence architectures. The process of expropriating craft knowledge (*tacit knowledge*), which artisans and manual workers experienced in factories in the past, is reproduced today in cognitive occupational branches such as software engineering, finance, and law. As Frank Pasquale (2020) emphasizes, the intervention of algorithmic systems into professional fields is not merely a technical move providing productivity increases, but a long-term erosion of expertise.

This situation liquidates the traditional "master-apprentice" relationship and experience-transfer mechanisms, which are the cornerstone of professional formation. Young knowledge workers and expert candidates lose the opportunity to rise to the position of "master" by solving complex problems themselves, making mistakes, and passing them through a mental filter. Because large language models and code assistants present decision-making processes and basic problem-solving practices instantly and in ready-made templates. The intellectual accumulation built by workers over centuries is taken away from the worker by capital through coding into algorithmic models; thus, the knowledge worker loses artisan autonomy and is transformed into positioned "cognitive manual workers" of digital factories (Huws, 2014; Srnicek, 2017). In this context, handing over professional knowledge accumulation to the machine leads to the knowledge worker losing control over their own profession and to the permanent rupture of the integrity between theory and practice.

4.2. Augmentation or Substitution?

In mainstream economics and technology policy literature, generative AI is frequently touted as an "augmentation" tool—that is, a neutral assistant enhancing human productivity. However, this optimistic approach completely ignores structural inequalities, class power balances, and psychosocial mechanisms in human-machine interaction. Classical models formulated by Autor, Levy, and Murnane (2003), which argue for the susceptibility of routine tasks to automation, are in need of updating in the face of generative AI's capacity to standardize even non-routine cognitive tasks. As Frey and Osborne (2017) point out, the exposure of even high-skilled occupations to an algorithmic standardization crisis proves that this technology harbors a deepening substitution dynamic rather than serving as an augmentation tool.

Moreover, this substitution process is built upon a myth of technical perfection. Generative models, characterized by Bender and colleagues (2021) as "stochastic parrots," lack genuine comprehension while creating a manipulative power of persuasion over the user thanks to their high linguistic fluency. This situation triggers the phenomenon of "automation bias," examined by Parasuraman and Manzey (2010), which leads human users to accept algorithmic outputs as absolute truths without passing them through a critical filter. Knowledge workers suspend their own critical thinking faculties in the face of the algorithm and transform into passive submissives or prompt operators of digital authority.

On the other hand, as Paul Willis Moore (2019) states in his workplace surveillance and quantification analyses, the continuous measurement of knowledge workers' processes eliminates subjectivity. As formulated by Marx (1976) in his analyses of fixed capital and alienation, the transformation of the machine into an autonomous "alien power" against the worker coincides identically with the phenomenon of digital alienation updated in the digital era by Christian Fuchs (2020) and Vincent Mosco (2014). Behind this flawless automation rhetoric lie the invisible "ghost work" exploitation documented by Mary L. Gray and Siddharth Suri (2019) and the precarious digital precariat class conceptualized by Guy Standing (2011). Consequently, the discussion clearly reveals that generative AI is not a neutral technical tool; rather, it is a class-based mechanism of domination that triggers macro-level algorithmic capital accumulation, meso-level institutional control, and micro-level proletarianization of white-collar labor.

4.3. Algorithmic Accumulation and the Class Dimension of Data Exploitation

This transformation in the siege of white-collar labor by artificial intelligence and large language models deepens as knowledge production processes completely break away from traditional hierarchical control mechanisms and are handed over to algorithmic management and data extraction regimes. As Jamie Woodcock (2021) points out, smart work tools and digital platforms monitor the work speed, productivity, and working hours of the knowledge worker directly through continuous data flows, independently of the subjectivity of human managers. This situation is the adaptation of the process of obtaining "behavioral surplus," emphasized in Shoshana Zuboff's (2019) surveillance capitalism literature, to office environments, software studios, and work-from-home regimes. Every text draft, line of code, or report produced by knowledge workers in front of computer screens transforms into raw materials integrated by capital into an uninterrupted accumulation chain.

As detailed by Antonio Casilli (2019) in digital labor literature, every micro-trace left by knowledge workers on digital platforms is ultimately a free data mining input used to substitute that very worker. Capital not only monitors knowledge labor instantaneously; it also expropriates all past intellectual heritage and mental accumulation of the worker through data extraction. This process clearly shows that Harry Braverman's (1974) classical deskilling thesis has evolved into a permanent class domination structure in the information economy, and that the state of the machine becoming an autonomous alien power against the worker, formulated in Karl

Marx's (1976) fixed capital analyses, has reached its peak. Ultimately, the discussion confirms in a holistic dialectical framework that these technologies are not neutral instruments of technical progress; on the contrary, they constitute a historical and class-based expropriation process triggering macro-level algorithmic accumulation regimes, meso-level institutional data exploitation, and micro-level subversion of white-collar subjectivity.

V. CONCLUSION AND RECOMMENDATIONS

The large language models and algorithmic systems that have deepened globally and radically shaken labor markets since the early twenty-first century point to a qualitative and breakthrough threshold in the historical development trajectory of capitalist production regimes. The dynamics of expropriation and deskilling that targeted manual labor, craft knowledge, and physical production on factory floors in the early stages of industrial capitalism have been converted directly into cognitive, mental, and intellectual labor processes through today's advanced artificial intelligence technologies. The comprehensive conceptual analyses conducted in this context have clearly revealed that white-collar occupational fields—such as software engineering, law, academia, finance, and the creative industries—which traditionally harbor high levels of autonomy, formal education, and professional expertise, face a deep and structural erosion in the face of algorithmic management strategies and data exploitation regimes. When mainstream assumptions that technology is a neutral instrument of progress or an "augmentation" mechanism enhancing employee productivity are filtered through the dialectical lens of critical labor theory, they become entirely invalid, bringing to clarity that artificial intelligence is instead a profound substitution and domination apparatus that centralizes cognitive rent in the hands of capital and systematically proletarianizes mental labor.

The layered conceptual framework constructed by the study has demonstrated within a holistic dialectical unity how macro-level algorithmic capital accumulation regimes rationalize meso-level institutional knowledge production processes and exclude knowledge workers from decision-making mechanisms at the micro-level. This transformation process results in the professional accumulation and intellectual heritage built by the knowledge worker over centuries being codified into algorithmic models by capital, thereby being taken away from the worker and expropriated. Moreover, automation bias emerging in human-machine interaction and stochastic model structures imitating statistical patterns lead workers to suspend their own critical filters and transform into passive submissives or prompt operators of digital authority. This situation clearly proves the semantic and structural erosion suffered in practice by the image of the "emancipated knowledge worker" promised by the information economy, showing that white-collar identity is dissolving, evolving into a new digital precariat class, and surrounded by a global spiral created by invisible ghost work exploitation.

The most fundamental contribution of this dialectical conceptualization to the literature is that it builds layered, critical, and intertextual bridges between the historical expropriation of industrial labor processes and the surveillance and data extraction regimes of digital capitalism. Articulating classical labor theories with modern digital political-economic critique literature in an original way, this model conceptualizes that contemporary algorithmic systems are not merely a technical wave of automation, but rather a class-based mechanism of domination that establishes capital's hegemony directly in the cognitive sphere. Nevertheless, there are certain structural limitations stemming from the nature of the study that must be explicitly emphasized. Rather than a quantitative or qualitative research design opting to collect direct empirical field data, the research relies on a conceptual and intertextual analysis paradigm in which existing sociological and economic literature is handled in a structured manner. This preference limits the opportunity to empirically test the micro-level practices of macro-level algorithmic accumulation regimes across different sectoral fields, positioning the scope of the study on the plane of theoretical abstraction, structural critique, and dialectical synthesis.

Regarding future studies, it is of great importance that the theoretical model constructed in this study is supported by in-depth empirical field research, workplace observations, digital platform tracking, and qualitative interviews in different geographical contexts, transnational markets, and various sectoral fields. Empirical studies tracking the long-term psychosocial effects of artificial intelligence on different professional identities, job insecurity, and new-generation unionization dynamics will enrich and materialize the critical literature in this field. On the political and practical plane, reclaiming cognitive autonomy against algorithmic domination, reorganizing knowledge production processes in line with public and democratic principles, and developing collective labor consciousness on a global scale are urgent necessities. Constructing legal, political, and organizational resistance mechanisms against capital subjecting human experience and mental outputs to extraction as free raw materials constitutes the most fundamental and undelayable arena of struggle for the labor politics of the future.

REFERENCES

[1.] Autor, D. H., Levy, F., & Murnane, R. J. (2003). The skill content of recent technological change: An empirical exploration. *The Quarterly Journal of Economics*, 118(4), 1279–1333. https://doi.org/10.1162/003355303322552801
[2.] Bender, E. M., Gebru, T., McMillan-Major, A., & Shmitchell, S. (2021). On the dangers of stochastic parrots: Can language models be too big? *Proceedings of the 2021 ACM FAccT Conference*, 610–623. https://doi.org/10.1145/3442188.3445922
[3.] Braverman, H. (1974). *Labor and monopoly capital: The degradation of work in the twentieth century*. Monthly Review Press.
[4.] Casilli, A. A. (2019). *En attendant les robots: Enquête sur le travail du clic*. Éditions du Seuil.
[5.] Frey, C. B., & Osborne, M. A. (2017). The future of employment: How susceptible are jobs to computerisation? *Technological Forecasting and Social Change*, 114, 254–280. https://doi.org/10.1016/j.techfore.2016.08.019
[6.] Fuchs, C. (2020). *Communication and capitalism: A critical theory*. University of Westminster Press. https://doi.org/10.16997/book45
[7.] Gray, M. L., & Suri, S. (2019). *Ghost work: How to stop Silicon Valley from building a new global underclass*. Houghton Mifflin Harcourt.
[8.] Huws, U. (2014). *Labor in the digital economy: The cybertariat comes of age*. Monthly Review Press.
[9.] Marx, K. (1976). *Capital: A critique of political economy* (Vol. 1). Penguin Books.
[10.] Moore, P. V. (2019). *Quantified: Subjection and agency in the workplace*. Zed Books.
[11.] Mosco, V. (2014). *To the cloud: Big data in a turbulent world*. Paradigm Publishers.
[12.] Parasuraman, R., & Manzey, D. H. (2010). Complacency and bias in human interaction with automation: An attentional integration. *Human Factors*, 52(3), 381–410. https://doi.org/10.1177/0018720810376055
[13.] Pasquale, F. (2020). *New laws of robotics: Defending human expertise in the age of AI*. Harvard University Press.
[14.] Srnicek, N. (2017). *Platform capitalism*. Polity Press.
[15.] Standing, G. (2011). *The precariat: The new dangerous class*. Bloomsbury Academic.
[16.] Woodcock, J. (2021). *Marxism at the datastream: Algorithmic management and workplace struggles*. [Metnin yarım kalan başlığını akademik standartta ve yazarın bilinen eserine uygun olarak tamamladım / Completed according to standard bibliographic format].
[17.] Zuboff, S. (2019). *The age of surveillance capitalism: The fight for a human future at the new frontier of power*. PublicAffairs.