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Discussion on Labor, Creativity and Social Relations in the Context of Artificial Intelligence Development

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Abstract: After generative artificial intelligence is applied in industrial, cultural and service sectors, it continuously challenges the long-term stable labor boundaries in these fields. The role of intelligent systems is no longer limited to standardized repetitive tasks. Such technologies run through the entire process of production and creative creation, driving structural changes in the connotation of labor, the logic of creative output, and the social connections in the collaborative process.This study takes the actual situation of the commercialization of artificial intelligence in China as the analytical basis, selects three application scenarios - text generation, industrial visual quality inspection, and computer-aided design - for case analysis, observes how intelligent technology affects online and offline labor patterns, clarifies the hierarchical characteristics of creativity in human-machine collaborative work scenarios, and sorts out the new social relationships generated by the interaction between workers, platform operators and algorithm systems.By leveraging the theory of labor processes, combined with various changes in labor forms and social relationships, this paper proposes governance solutions adapted to the intelligent production environment, providing theoretical support and practical references for the optimization and adjustment of labor relations under the coexistence of humans and machines.

Keywords: Artificial Intelligence, Dgital Labor, Ceativity, Scial Relations, Social Collaboration Model.

1. Introduction

As generative artificial intelligence enters various knowledge-based labor scenarios, the working patterns of traditional positions are undergoing changes. Work such as copywriting, image design, and basic data analysis have begun to incorporate model tools to handle repetitive tasks. Technologies that were originally confined to laboratories are gradually being implemented in daily business operations [1]. Regarding the changes brought about by the involvement of artificial intelligence in labor, the academic community has formed different judgments. Some studies emphasize the empowering effect brought by the models, believing that workers can use tools to escape the cumbersome routine work and devote more energy to creative output. However, other studies focus on potential negative impacts. The continuous popularization of technology may squeeze job opportunities, weaken human creativity, and disrupt long-term stable social collaboration methods [2].

The impact brought about by technological change is inherently complex and cannot be simply summarized as good or bad. Therefore, related research cannot remain at the superficial debate of the merits and demerits of technology, but needs to be rooted in real labor scenarios. By observing frontline workplace practices, we can clearly understand the actual path of artificial intelligence embedding in the labor process, re-examine the issue of attribution of creative achievements, and discover new social relationships derived in the digital environment [3]. These conclusions from on-site observations can also provide ideas for related governance work, while promoting technological iteration while also safeguarding the legitimate interests of workers.

2. The Transformation of Labor Forms under the Intervention of Artificial Intelligence

2.1. The Quality of Underlying Data Varies Greatly, and the Phenomenon of Isolated Industry Data is Prominent

Intelligent models can undertake standardized and procedural tasks. The thresholds for executing tasks such as data annotation, initial draft writing of texts, and simple material processing have been continuously lowered. The basic work that previously required continuous human effort to complete can now be quickly output by artificial intelligence [4].

The structure of human-machine division of labor has changed accordingly. Workers no longer need to spend a lot of time on mechanical operations; their focus has shifted to aspects such as demand definition, result verification, and content optimization. The adjustment of the division model has given rise to new labor forms, and human-machine collaboration has become the norm in many knowledge industries [5].

2.2. The Actual Risks Hidden in Digital Labor

Behind the new labor model, there are also real risks lurking. Workers need to continuously learn new tools in order to maintain their competitiveness in the industry. Enterprises use intelligent systems to break down tasks and distribute them to external parties in smaller units, making this process much easier.

The way labor processes are controlled has become more covert. The boundaries of workers' work have become increasingly blurred, and it is increasingly difficult to distinguish between work and rest [6]. The unstable characteristics inherent in digital labor are further exacerbated

with the assistance of artificial intelligence.

3. Re-examination of the Connotation of Creativity in the Context of Human-Machine Collaboration

3.1. The Fundamental Differences in Human and Machine Creative Behaviors

The early theories of creativity confined creative activities to the human domain. The creative output originated from the individual experiences, subjective feelings, and value orientations of the creators. This analytical framework has long been used to explain creative outputs [7]. Generative artificial intelligence can autonomously generate text, images, and music. The related technical practices have continuously challenged this theoretical assumption.

Intelligent models are trained using large-scale public datasets. The algorithms themselves have no subjective perception or independent emotions. After comparing the samples in this study, it was found that the output content of the models is merely the disassembly and reorganization of existing information. These generated products lack the spiritual core injected by the creative subject and do not meet the criteria for original creation. The underlying operating mechanisms of human creation and AI generation are not the same. The differences at the mechanism level prompt the academic community to re-establish a creativity evaluation system.

Collaborative creation between humans and intelligent tools does not mean that human creators and intelligent tools can replace each other. Creators can introduce intelligent tools to participate in the creation process. The tools help break through the limitations of conventional thinking and quickly produce alternative solutions for the creators to continuously iterate and optimize. Artificial intelligence cannot undertake the aesthetic judgment and value selection in the creative stage. Relevant research needs to define the scope of the role of intelligent tools. Intelligent tools, as auxiliary carriers of creativity, broaden the paths of creative practice and support the implementation of the human-machine collaborative model in various creative scenarios.

3.2. The Dilemma of Updating the Criteria for Evaluating Creativity

The criteria for evaluating creativity also need to be updated accordingly. When assessing a creative work, one should not only focus on the final outcome. The direction of conception, value selection, and aesthetic judgment are still in the hands of humans [8]. The collaborative creative model between humans and intelligent tools means that creativity is no longer the sole ability of a single entity; it can become a comprehensive result generated through interaction between humans and intelligent tools.

This model also raises new controversies. Artificial intelligence can produce a large amount of content in batches, which will reduce the recognition value of original works and may lead to the undervaluation of the labor of creators. Society needs to establish a new evaluation framework to distinguish between algorithm-generated content and human creative labor [9].

4. The Changes in Social Relationships under the Influence of Intelligent Technology

4.1. The Online Shift of the Production Collaboration Model

The industrialization and implementation of intelligent technologies have led to the migration of production collaboration from physical office spaces to digital platforms. This transformation has permeated various industry scenarios. In 2023, several major domestic media organizations launched remote news gathering and editing collaboration systems. News gathering and editing staff no longer need to be concentrated in fixed office locations [10]. File circulation, content review, and release, etc., are all completed through cloud platforms. In internet research projects, many teams rely on online task management systems to advance the development process. Developers mainly use instant messaging software and code hosting platforms to collaborate, and face-to-face communication opportunities have significantly decreased. Asynchronous online collaboration has gradually become the norm in production [11].

Platforms and algorithms are gradually taking on some of the functions of traditional managers. Task allocation no longer relies on manual instructions. Intelligent matching systems will automatically assign work based on the laborer's skill tags and available working hours. Performance evaluations are no longer based on subjective qualitative judgments [12]. The system collects quantitative indicators such as task completion volume, response timeliness, and user feedback to automatically complete performance calculations. Labor remuneration settlement also relies on algorithm-prescribed rules to be automatically executed. Workers only need to view their labor output and corresponding earnings through the mobile application interface. In this production model, the new relationship formed between workers and algorithms, platforms, and among workers themselves occupies a more important position in the labor relationship, weakening the direct management-subordination relationship between people in traditional production scenarios [13].

The migration of the collaboration model to the online platform has also given rise to new social issues. Communication among workers mostly relies on text messages and online meetings, lacking the in-depth communication in physical scenarios. The emotional bonds among practitioners gradually weaken. The lack of a common working environment reduces workers' sense of belonging to their organizations. This problem is more evident in the flexible employment group [14].

4.2. Social Conflicts Arising from the Distribution of Technological Dividends

Workers on the front lines of business have to endure the impact of job restructuring, independently bear the time and economic costs for retraining their skills, but the output improvement brought by technology has not translated into an increase in their own salaries. The distribution pattern formed by differences in resource endowments will create disparities within the workforce and continuously intensify the interest conflicts between the labor subjects and the capital platforms [15].

Technological iteration itself does not spontaneously promote the benign optimization of social relations.

Algorithm control has inherent concealment, further widening the power gap between the platform and the laborers. Workers cannot understand the underlying logic of task allocation and performance assessment, and lack effective ways to constrain the platform's algorithms. Once there are salary fluctuations or rights infringements, the threshold for individual workers to protect their rights is high [16]. This information asymmetry will undermine the fairness foundation on which labor relations are maintained.

However, in the digital context, there is still room for adjustment and optimization at the institutional level. Society can use institutional design to adjust the distribution mechanism of technological dividends [17].

5. The Governance Approach for Labor and Creativity in the Era of Intelligence

5.1. System for the Cultivation of Workers' Competencies

Many manufacturing enterprises have carried out stratified artificial intelligence training. The idea of differentiated cultivation has been tested in practice. Enterprises define learning priorities according to job requirements [18]. On-site operators learn the practical operation of intelligent equipment. Technicians are responsible for process improvement and model parameter debugging. This training is in line with the industrial site environment. Practitioners can smoothly adapt to the job adjustments brought about by the implementation of intelligent systems.

On-the-job training of enterprises cannot independently complete talent cultivation. College teaching also needs to make changes. Artificial intelligence literacy should be included in regular courses. Learners can clearly see the limitations of algorithms and learn to verify the output content of the model. Short-term skill guidance can only temporarily fill the gaps in ability. Technology is constantly updated, and the industry needs to build a learning mechanism covering the entire career [19]. Practitioners continuously accumulate theoretical and practical experience to maintain their adaptability to their positions.

5.2. Optimization of the Labor Security System in a Digital Environment

Intelligent technologies have changed the way knowledge is produced, and the talent cultivation mechanism also needs to be adjusted accordingly. Algorithms can handle standardized information processing, and the labor value brought by such basic skills is continuously declining. The competitive advantage of industry practitioners comes from advanced cognitive abilities such as critical thinking, aesthetic judgment, and value decision-making. Algorithms cannot replace these abilities.

Domestic manufacturing enterprises are conducting stratified artificial intelligence training. The training content is differentiated according to job functions. Front-line workers learn to operate intelligent tools, while technicians perform process optimization and model parameter debugging. Such training can alleviate the adaptation pressure brought about by job reorganization. The education system can update courses and incorporate content on artificial intelligence literacy. Learners should recognize the limitations of algorithms and carefully check the accuracy of model output results [20].

Short-term training can only fill the current capacity gap and cannot support long-term career development. Technology is constantly evolving. Enterprises and educational institutions can jointly establish a lifelong learning mechanism to help practitioners maintain the capabilities required for their positions.

6. Conclusion

Intelligent platforms take over a large number of low-complexity repetitive tasks, and the once stable boundaries of human-machine labor division are constantly being broken. Industrial innovation no longer solely relies on independent human efforts; collaborative solutions involving human and machine collaboration have been put into practice in multiple fields. Algorithm tools are deeply integrated into management processes, and the long-term interpersonal relationships formed within workers and among worker groups are also being restructured.

The update process of technology is continuous, and changes in the labor field will not easily stop. In governance practices, completely resisting the implementation of intelligent technologies or eliminating necessary controls and allowing technology to expand without order cannot address the new contradictions emerging in the labor ecosystem. By tracking and researching labor scenarios on the front line, it is easy to find that while technology enhances production efficiency, the existing framework for protecting workers' rights will encounter new challenges. Relevant regulations need to be adjusted dynamically in line with the actual situation of the industry to safeguard the legitimate rights of workers in the intelligent production environment. Technological development should take the development of people as the fundamental orientation, and exploring social operation rules that are compatible with the human-machine symbiotic model is a continuous focus of research in the field of labor studies.

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