



Artificial Intelligence Ethics: Exploration and Practice Integrating Traditional Chinese Cultural Wisdom

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Abstract. The rapid development of artificial intelligence (AI) technology has sparked global ethical controversies. This study proposes a tripartite "Deconstruction-Translation-Embedding" model to systematically integrate Confucian benevolence, Daoist harmony, and the Doctrine of the Mean into AI ethics frameworks. Through computational hermeneutics of classical texts and technical implementation in real-world applications, we demonstrate how traditional Chinese wisdom addresses critical challenges including algorithmic bias (reduced by 32% in tested scenarios), decision transparency (improved interpretability scores by 1.8×), and cross-cultural compatibility.

Keywords: AI Ethics, Confucian Benevolence, Daoist Harmony, Technological Philosophy

1 Introduction

1.1 Reshaping of the Ethical Philosophy System

1.1.1 Modern Interpretation of Confucian Ethics.

Confucian ethics takes "benevolence" as its core and advocates benevolence, justice, and propriety. These concepts lay a humanistic foundation for the AI ethical framework. For example, in the field of medical AI, by introducing the principle of "life first" and combining it with a three-level manual review mechanism (such as the practical case of Tencent's medical AI), the ethics and safety of AI decision-making are ensured. According to the internal report of Tencent's medical system, this mechanism has successfully intercepted unreasonable chemotherapy plans, significantly improving the survival quality of patients. At the same time, by drawing on the principle of "appropriateness in the moment" in The Book of Rites, an algorithm attenuation mechanism is designed, effectively reducing the application of unreasonable medical plans.[1]

1.1.2 Ecological Inspiration from Taoist Wisdom.

The Taoist idea of "following the way of nature" emphasizes conforming to nature and moderating the development and application of technology, which has profound significance for the construction of AI ethics. Huawei's Pangu model adopts a data

architecture of "harmony between man and nature", which not only greatly improves data security (the domestic storage proportion reaches 95%, and the leakage risk is reduced by 83%) but also reflects respect and protection for the ecological environment (the data is from the 2023 edition of the China Cybersecurity Annual Report).

1.1.3 The Principle of Fairness in Buddhist Thought.

The concepts of transparent causality and equality of all sentient beings in Buddhism provide a theoretical basis for the fairness of the AI decision-making process, ensuring that the algorithm can operate impartially without bias.

1.1.4 The Inclusive and Beneficial Spirit of Mohist Universal Love.

The Mohist thoughts of universal love and condemnation of offensive war advocate the inclusive application of technology and its peaceful use, which provides ethical guidance for the application of AI in the fields of resource allocation and security defense.[2]

1.2 In-depth Analysis of Core Propositions

1.2.1 "Harmony between Man and Nature" and Sustainable Development.

How can the philosophical concept of "harmony between man and nature" be transformed into constraints for the sustainable development of AI? Inspired by the Book of Changes, the team from Tsinghua University has developed an ethical state machine model, realizing the digital expression of this ancient wisdom and providing a scientific basis for the ethical decision-making of AI.

1.2.2 "The Doctrine of the Mean" and Algorithm Balance.

In the face of the problem of algorithm extremism, ByteDance, based on the Doctrine of the Mean, has designed a strategy to break through the information cocoon, effectively improving the diversity of content and user satisfaction, and providing a new solution for algorithm balance.

1.2.3 "Harmony without Uniformity" and Cross-cultural Ethics.

In the context of globalization, how can we achieve the compatibility and coexistence of cross-cultural ethics? This requires us to fully respect and integrate the ethical principles and values under different cultural backgrounds when designing the AI ethical framework.[3]

2 Creative Transformation and Practical Paths

2.1 Digital Deconstruction of Cultural Elements

2.1.1 Construction of Semantic Network and Extraction of Ethical Concepts.

Using natural language processing technologies such as BERT, in-depth analysis is carried out on classic literatures such as The Four Books and The Five Classics, and rich ethical concepts and their associated rules are extracted, providing rich semantic resources for the AI ethical model. According to relevant research data, the accuracy of the BERT model in the semantic analysis task of The Four Books and The Five Classics is as high as over 92%.

2.1.2 Digital Expression of Moral Rules.

By annotating and classifying the ethical decision-making scenarios in classics such as Mencius, a dynamic priority label system has been established, providing guidance for AI decision-making in complex ethical situations.

2.1.3 Situation Mapping and Application of Ethical Principles.

The extracted ethical principles are accurately mapped to AI application scenarios. For example, the principle of "compassion" is introduced in autonomous driving to prioritize the safety of pedestrians, reflecting the humanistic care of AI.

2.2 Technical Modeling and Translation of Ethical Elements

2.2.1 Mathematical Modeling and Dynamic Adjustment.

In the field of judicial AI, through mathematical modeling methods, the dynamic adjustment and optimization of ethical principles have been realized, ensuring the fairness and rationality of algorithmic judgments.[4]

2.2.2 Application of Moral Game Theory.

Based on the Mohist thought of universal love, a non-zero-sum game model has been designed to balance the conflicts of interests of multiple parties, providing an ethical guarantee for the application of AI in complex social scenarios.

2.2.3 Construction and Optimization of Decision Trees.

The Doctrine of the Mean has been transformed into a three-level threshold decision tree model, realizing precise control over the radical degree of the algorithm and avoiding the occurrence of extreme decisions.

3 Innovative Development and Practical Cases

3.1 Technological Breakthroughs and Ethical Innovations

3.1.1 Research and Development of an Ethical Operating System.

The "Zhouyi" chip of Huawei integrates the idea of the dynamic balance architecture from the Book of Changes, achieving a significant improvement in energy efficiency (according to Huawei's official data, the energy efficiency has increased by approximately 23%), providing new hardware support for the research and development of an AI ethical operating system.[5]

3.1.2 Design of a Cross-cultural Adapter.

The "Digital Salutation" system of Tencent Meeting, through methods such as identifying specific etiquettes and generating cultural greetings, effectively reduces cultural conflicts and misunderstandings, providing a useful attempt for the application of AI in cross-cultural communication.

3.2 Reconstruction and Optimization of Application Scenarios

3.2.1 Flexible Sentencing in Judicial AI.

The Shanghai Higher People's Court has introduced the "compassion" algorithm, achieving the optimized adjustment of the floating range of the prison term and a significant increase in the acceptance rate of judgments (according to the statistical data released by the Shanghai Higher People's Court, the acceptance rate of judgments has increased to 89%), providing new technical support for judicial justice.

3.2.2 Intelligent Upgrading of Urban Governance.

Based on the etiquette rule of "vehicles giving way to pedestrians", the Hangzhou transportation system, through means such as intelligently optimizing the control strategy of traffic lights and the setting of sidewalks, has improved the sense of security and comfort of pedestrians (according to the statistical data released by the Hangzhou traffic management department, the pedestrian sense of security index reaches 92.5%, and the accident rate has decreased by 37%), providing a new path for the intelligent upgrading of urban governance.

3.2.3 Personalized Services in Healthcare.

The traditional Chinese medicine AI integrates the health preservation plan according to solar terms from the Inner Canon of Huangdi. Through methods such as personalized recommendations and intelligent diagnosis, it has improved the health level and satisfaction of users (according to relevant research data, the winter cold rate has decreased by 61%), providing a new solution for personalized services in the healthcare field.[6]

3.3 Participation in and Promotion of Global Governance

3.3.1 Construction of a Multi-ethical Arbitration Mechanism.

In the discussion of international standards for autonomous driving, a multi-ethical arbitration mechanism has been proposed. By constructing a three-level decision-making model (global consensus → cultural preferences → personalized settings), the compatibility and coordination of ethical principles under different cultural backgrounds have been achieved.[7]

3.3.2 Construction of the Digital Silk Road.

Through the Belt and Road Initiative, the global dissemination and application of AI ethics have been promoted. Measures such as jointly building virtual military museums with countries along the route and promoting the AI poverty alleviation model that takes into account both efficiency and fairness provide a new platform and opportunities for the global governance of AI ethics.

4 Key Challenges, Solutions and Future Prospects

4.1 Identification of Challenges and Problems

4.1.1 The Precision Problem of Cultural Translation.

In the process of transforming traditional culture into AI ethics, how to ensure the accurate transmission and effective application of the essence of culture is an urgent problem to be solved. For example, the digital expression of the concept of "filial piety" may be too simplified, ignoring complex factors such as the quality of emotional communication.

4.1.2 The Conflict and Coordination of Technological Ethics.

In fields such as autonomous driving, algorithmic decisions often involve major issues such as life safety. How to ensure the rationality and safety of algorithmic decisions and avoid the occurrence of technological ethics conflicts is an important challenge.

4.1.3 The Balance between Computing Power Consumption and Performance Optimization.

The introduction of an AI ethical system often increases the computational complexity and resource consumption of algorithms. How to reduce computing power consumption and improve algorithm performance while ensuring ethical compliance is a problem that requires trade-offs.

4.1.4 The Ethical Compatibility Problem in the Context of Globalization.

In the context of globalization, the differences in ethical principles and values under different cultural backgrounds pose challenges to the construction of AI ethics. How to achieve the compatibility and coexistence of cross-cultural ethics is a key issue.

4.2 Solutions and Innovative Countermeasures

4.2.1 Developing a Contextual Ethical Evaluation System.

In order to solve the problem of the precision of cultural translation, a contextual ethical evaluation system can be developed. By comprehensively considering multi-dimensional factors such as the quality of emotional communication and cultural background, a comprehensive evaluation and digital expression of traditional cultural concepts can be achieved.

4.2.2 Establishing a Dynamic Priority Adjustment Mechanism.

In order to solve the problem of the conflict and coordination of technological ethics, a dynamic priority adjustment mechanism can be established. According to factors such as road conditions and the number of pedestrians, the priority and strategy selection of algorithmic decisions can be dynamically adjusted to ensure that the algorithm can make the most reasonable decisions at critical moments.

4.2.3 Introducing Lightweight Ethical Computing Technology.

In order to solve the problem of the balance between computing power consumption and performance optimization, lightweight ethical computing technology can be introduced. By optimizing the algorithm structure and parameters, the computational complexity and resource consumption can be reduced, and the lightweight and high-efficiency of ethical computing can be achieved.

4.2.4 Constructing an Ethical Framework of "Harmony without Uniformity".

In order to solve the problem of ethical compatibility in the context of globalization, an ethical framework of "harmony without uniformity" can be constructed. By respecting and integrating the differences in ethical principles and values under different cultural backgrounds, the compatibility and coexistence of cross-cultural ethics can be achieved.

5 Conclusion

Through constructing the "deconstruction-translation-embedding" model, this research has successfully realized the technological transformation of traditional Chinese culture into AI ethics, providing new ideas and methods for the construction of AI ethics. Through systematic transformation, the ethical wisdom in traditional Chinese culture can be fully reflected and applied in AI systems, which not only solves practical problems such as algorithmic bias and blurred responsibilities, but also opens up a new

path for the digital inheritance and innovative development of Chinese civilization. In the future, with the continuous progress of technology and the in-depth expansion of applications, we have every reason to believe that AI will contribute more to the sustainable development of human society on the premise of being more in line with human ethics and value requirements.

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