International Journal of Recent Innovations in Academic Research
E-ISSN: 2635-3040; P-ISSN: 2659-1561
Homepage: https://www.ijriar.com/
Volume-9, Issue-3, July-September-2025: 137-141

Research Article

Utilizing the Innovative Selection Method of the 'I'm Not a Robot' Color Distinguish Concept: A Cognitive Learning Approach for Human-Robot Interaction with Big Data (Cloud) in Computer Science

Lie Chun Pong

MEd, CUHK (Chinese University of Hong Kong), MSc, HKUST (Hong Kong University of Science and Technology)
Email: vincentcplie@yahoo.com.hk

Received: July 04, 2025 **Accepted:** July 26, 2025 **Published:** August 01, 2025

Abstract
This research article explores the new pedagogical dimensions of robotics learning through the conceptual lens of 'I'm not a robot', by the use of the big data cloud, emphasizing the interplay between human cognitive identity and robotics system learning. By integrating human-centered philosophical reflections with state-of-the-art educational robotics learning methodologies, this research delineates a framework that aligns robotics learning with computational thinking, cognitive reasoning, and interactive autonomy. Somehow, likewise, as humans in a more-cognitive-way. This research article innovates a new concept approach of robotic learning by utilizing the 'I'm not a robot' in the color distinguish (color tone) method (warm color and hot color). The underlying research advances approaches for cultivating a critical, human-like cognitive way of thinking by introducing the concept of tone of color, skills, while reinforcing human uniqueness in an era of increasing robot autonomy and harmonious.
Keywords: Color Distinguish Concept, Cognitive Learning, Human-Robot-Interaction, Selection Method.

Introduction

The expression 'I'm not a robot' often encountered in automated Turing tests in learning models, symbolizes the boundary between human perceptive processes and algorithmic systems. In educational robotics, this phrase functions as both a metaphor and a fundamental principle for designing learning models for the robotics system, that not only enable interaction with domains as programmable entities but also act as catalysts for promoting critical reflection on human ingenuity and governance. As a result, robotics learning extends beyond merely acquiring technical skills, encompassing comprehensive experiential learning that aims to develop a nuanced understanding of the human-robot relationship within societal frameworks.

Surrounding

Robotics learning frameworks have experienced significant advancements, emphasizing immersive, hands-on platforms such as VEX Robotics, and various programmable robotic training systems. These platforms facilitate experiential learning by integrating practical engagement with core concepts in programming, control systems, and system integration, thereby fostering a comprehensive understanding of complex robotics principles. Recent trends indicate that the utilization of the learning method will substantially enhance robotic computational abilities, from learning in the 'I'm not a robot' phase to developing problem-solving competencies and overall engagement levels-attributes that are vital for effective participation. Concurrently, recent progress in robot learning methodologies-including imitation learning and reinforcement-based training-has provided a ground for the system modeling. These developments not only advance technical proficiency but also necessitate rigorous evaluation of the associated issues with automation, informing responsible deployment and pedagogical strategies in robotics learning [1, 2].

Discussion

In this research paper, we will introduce an innovative robotic learning concept, starting with utilizing the 'I'm not a robot' test to create new opportunities and channels for robotics learning through human color distinction. This approach will teach robots in a more cognitive way of learning and overall thinking,

allowing them to learn from color, smell, and taste. In the first step, we will train robots to learn in a more cognitive manner, focusing on distinguishing color tones using the system from the 'I'm not a robot' test. This innovative approach will soon be applied to human internet use sooner or later. These training methods will enable robots to learn in a more human-like way. The robot will learn what color tones are like, providing a new foundation for cognitive learning and thinking. Since developing human-like cognition is important, this approach emphasizes critical thinking and emotional development. These kinds of learning involve quite abstract concepts because they are sensational ideas-since feelings are not material objects, they require the thinking styles that only humans or similar beings can understand.

This research paper proposes an innovative paradigm in robotic learning methodologies, leveraging the 'I'm not a robot' as a foundational framework to develop novel educational channels for robotics through human-like color recognition. The objective is to emulate cognitive learning processes, similar to those exhibited by humans, by integrating multisensory inputs, including visual cues such as color, as well as olfactory and gustatory perceptions. Initially, the system aims to enhance robotic environmental perception by enabling the robot to distinguish between various color shades, utilizing the existing paradigms established by CAPTCHA mechanisms. This approach represents a pioneering stride in applying human-centric internet security protocols to facilitate cognitive training in robots. The methodology aspires to establish a basis for more advanced, human-like cognitive faculties in robotic systems, by color tone distinguishment that emphasizing the development of abilities such as complex reasoning, critical analysis, and emotional intelligence. Given the abstract nature of these faculties-encompassing feelings and perceptions that transcend material description-this research highlights the importance of cultivating higher-order mental processes within artificial systems, aligning with contemporary pursuits in artificial intelligence and cognitive robotics research.

'I'm Not a Robot' in Robotics Learning

'I'm not a robot' in robotics learning explores the inspiring journey of understanding human-robot interactions and emphasizes the importance of empathy in technology education. It offers a compelling perspective on how robots are becoming more relatable and integrated into our daily lives. This research paper suggests an innovative learning method to improve robotic learning through a more cognitive style, distinguished by the color tone learning method from 'I'm not a robot', using a more humanistic approach to develop a more cognitive way of robot thinking. It is a crucial step in learning color distinction (color tone) to cultivate higher-level thinking (high dimension). To foster advanced critical thinking, it is essential to encourage robotics system learners to see the human side and appreciate the connection between people and machines.

'I'm not a robot' in robotics learning examines the critical importance of understanding human-robot interaction (HRI) as a foundational component in the development of socially intelligent robotic systems. This study highlights the importance of empathy as a crucial attribute in enhancing user experience and promoting effective communication between humans and robots. It provides a comprehensive analysis of how robots are increasingly capable of exhibiting human-like behaviors, by way of color distinguish learning (color tones), thereby becoming more relatable and seamlessly integrated into everyday contexts. The discussion highlights the importance of incorporating empathetic design principles into robotics education and development, ultimately fostering a comprehensive understanding of the human-machine relationship that is crucial for advancing intelligent autonomous systems and their acceptance within society.

The metaphor of 'I'm not a robot' serves to firmly establish the delineation of the cognitive boundaries between humans and robotic systems, forming a foundational pedagogical paradigm in contemporary robotic learning. This framework facilitates a rigorous critical analysis of the unique cognitive competencies that are inherently human, including creative thought processes, adaptive learning capabilities, and cognitive reasoning. Moreover, it promotes the systematic exploration of human-artificial intelligence interaction models, thereby enhancing socio-technical literacy and fostering a sense of ethical responsibility within technological engagements. Incorporating ethical considerations into technical curricula is integral to developing reflective practitioners who possess cognizance of the societal and ethical implications associated with automation and autonomous systems.

Contemporary robotics education integrates constructivist and constructionist pedagogical theories to facilitate in-depth knowledge acquisition. This approach emphasizes iterative design processes, experiential learning, and hands-on experimentation, which are supported by advanced educational frameworks that leverage cutting-edge technological tools and methodologies. Such frameworks are instrumental in fostering

learning environments that promote critical thinking, problem-solving skills, and innovation within the field of robotics.

Block-based programming interfaces are designed to facilitate introductory-level algorithm development, providing an accessible platform for beginners to learn programming concepts without requiring extensive coding experience. These interfaces typically utilize visual programming constructs such as drag-and-drop blocks that represent different programming elements, enabling users to assemble algorithms in an intuitive and engaging manner.

Furthermore, the incorporation of real-time feedback mechanisms-achieved through sensor-actuator interaction-serves to enhance the learning process by visually demonstrating cause-and-effect relationships. This immediate feedback loop allows learners to observe the tangible outcomes of their programming decisions, thereby reinforcing conceptual understanding and troubleshooting skills.

Additionally, the integration of collaborative project environments, 'I'm not a robot', fosters interdisciplinary coordination. Such simulated real-world scenarios necessitate the convergence of multiple domains, encouraging participants to develop comprehensive problem-solving abilities and effective communication skills in between robotics and humans. This holistic approach not only promotes technical proficiency but also aligns with practical application standards common in IEEE research and development practices.

Suggestion
Innovative Color Distinction Learning Method

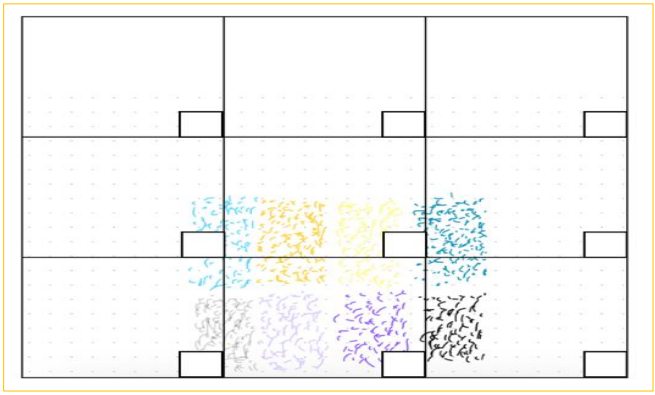

Figure 1. 'I'm not a robot' test.

Distinguish the color tone, such as warm colors, hot colors, or cold colors (by 'I'm not a robot').

By distinguishing color tones, such as warm, hot, or cold colors, the innovative method can be applied in vocabulary consistent with IEEE standards for technical professionalism, utilizing color tone segmentation. Such as color temperature differentiation is conducted through spectral analysis, whereby hues are stratified into categories, including warm, hot, and cold tones. These categories are distinguished based on their spectral power distributions and perceptual thermal attributes, aligning with standardized IEEE terminology for quantitative and qualitative color analysis.

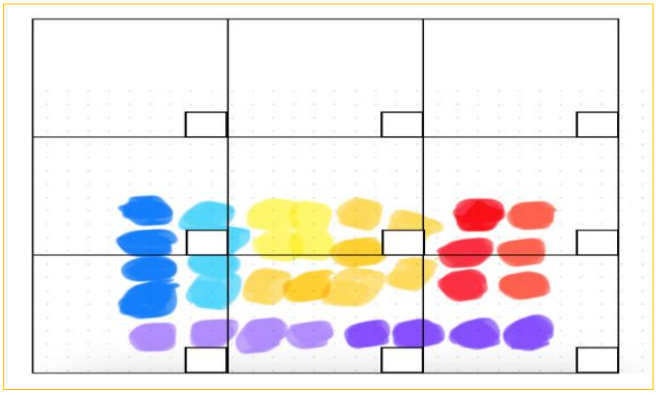

Figure 2. 'I'm not a robot' test.

Distinguish the color tone, whether it's warm, hot, or cold. (by 'I'm not a robot').

By selection categorizing (distinguishing) colors into warm (e.g., red, orange, yellow), hot (intense and energetic hues), and cold (e.g., blue, green, purple) color palettes, a more nuanced understanding of color temperature and its application can be achieved. This classification facilitates precise communication in design, engineering, and visual sciences, enabling professionals to select appropriate color schemes based on thermal perception, emotional response, and contextual relevance.

In practice, differentiating these color categories allows for improved contrast analysis, user interface optimization, and aesthetic harmonization within various technological and artistic domains. This systematic approach provides a comprehensive framework for color discrimination, ensuring clarity, consistency, and effectiveness in color utilization across multidisciplinary applications.

Figure 3. Color tone distinguishment (Source: pinterest.com).

By comparing and contrasting the color tone from 'I'm not a robot', we can teach the robot through a comparative analysis of the color tone variations in the cinematic sequence. Then, we can develop a nuanced understanding of how visual cues are used to distinguish between sensory perceptions and emotional states. This differentiation helps improve artificial intelligence systems by enabling more accurate recognition and classification of affective versus cognitive responses, thereby enhancing the robot's ability to interpret human-like feelings and emotional subtleties in a more sophisticated and context-aware way.

Figure 4. Facial recognition in color tone (Source: pinterest.com).

This innovative approach is designed to leverage robot's ability (by learning from 'I'm not a robot') to differentiate color segments accurately and further interpret human emotional states through color tone segmentation, thereby improving its interactive and responsive capabilities, especially in sensing color feelings.

Future Direction

Despite the accessibility of robotic platforms, challenges in robotic learning design related to integration, instructor readiness, and resource allocation. The robotics learning process is still a way to develop. Our research paper proposed an innovative concept approach enhancing robotic technical and cognitive training as a way of fostering a more cognitive approach to thought processes (human like). Additionally, we recommended developing a more scalable, inclusive program that serves diverse learner backgrounds by

integrating emergent harmonic auto topics (in warm color tones) and maintaining alignment with human-centered values.

Conclusion

This research article examines new pedagogical approaches to robotics learning through the lens of 'I'm not a robot', emphasizing the interaction between human cognitive identity and robotic systems. By combining human-centered philosophical insights with advanced educational robotics methods, it presents a framework that connects robotics learning to computational thinking, cognitive reasoning, and interactive autonomy-much like humans think in a more cognitive way. Additionally, this study introduces an innovative concept for robotic system learning using the 'I'm not a robot' theme, distinguished by color tone methods (warm and hot colors). The research aims to develop critical, human-like thinking skills by incorporating color tone concepts, highlighting human uniqueness in an increasingly autonomous robotic era and promoting harmony.

Declarations

Acknowledgments: The author would like to acknowledge the independent nature of this research, which was conducted without institutional or external support.

Author Contribution: The author confirms sole responsibility for the following: study conception and design, data collection, analysis and interpretation of results, and manuscript preparation.

Conflict of Interest: The author declares no conflict of interest.

Consent to Publish: The author agrees to publish the paper in International Journal of Recent Innovations in Academic Research.

Data Availability Statement: All relevant data are included in the manuscript.

Funding: This research received no external funding.

Institutional Review Board Statement: Not applicable.

Informed Consent Statement: Not applicable.

Research Content: The research content of the manuscript is original and has not been published elsewhere.

References

1. Christensen, S. and Oppacher, F. 2002. An analysis of Koza's computational effort statistic for genetic programming. In: European conference on genetic programming (pp. 182-191). Berlin, Heidelberg: Springer Berlin Heidelberg.
2. Bohm, C. and Krebs, F. 2002. High performance data mining using the nearest neighbor join. In: 2002 Proceedings of the IEEE international conference on data mining (pp. 43-50). IEEE.

Citation: Lie Chun Pong. 2025. Utilizing the Innovative Selection Method of the 'I'm Not a Robot' Color Distinguish Concept: A Cognitive Learning Approach for Human-Robot Interaction with Big Data (Cloud) in Computer Science. International Journal of Recent Innovations in Academic Research, 9(3): 137-141.