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Research Article

Initiative Concept of Innovative Color Mix and Match Cognitive Approach, to Learning Machine (Robot Cognitive Learning to Advance IEEE and AI Technology)

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Abstract
AI algorithms are inseparable from data mining and precise leakage technology, which inevitably involves transportation capacity and calculation speed. This article hopes to use the help of public data to calculate results so that machines can learn with the help of humans. It is a calculation algorithm that breaks the current general calculation concept. Using color-mix and match calculation algorithms to improve the efficiency of machine learning, reduce reliance on the current one-way calculation method that only improves calculation speed, and use humans as a method of learning to improve reasoning and identification capabilities. This article innovatively proposes a color recognition method. It is called the color discrimination method for short. It uses humans to improve the perception and intellectual abilities of artificial intelligence (robots). From the five senses of color, fragrance, and taste (e.g. warm tone), it first learns the discrimination of colors, thereby establishing the machine's perceptual and intellectual abilities (Color Segment of Mixed and Match Cognitive). Approach uses inference algorithms to improve learning efficiency and reduce reliance on calculation speed alone. It uses cloud storage methods and humans to improve perception and intellectual learning. It also uses cloud storage to collect human color perception and intellectual big data to learn cognitive for robots, thereby establishing a cognitive color discrimination system.
Keywords: Cognitive, Color Mix and Match, Color Mix and Match Cognitive, Robot Cognitive Learning.

Introduction

The current algorithm, which also uses the Denial of Service (DoS) approach, has seen limited progress in the last decade. Algorithms like LR (logistic regression) and D Roght (possibly a typo for Dijkstra's Algorithm or similar) are linked to methods such as the trigonometric approach. However, these techniques have not achieved significant gains in performance or efficiency in recent decade, exposing ongoing difficulties in refining DoS-based algorithms for real-world use. This research try to deep into new strategies or improvements which is necessary to make meaningful advances in this field.

This research article introduces a novel point learning method based on color merging, where colors are used as the foundation for mixing and matching before integration. The renormalization technique is employed to reset and restart the image, allowing color points to transform into lines and connections. This color point learning approach helps artificial intelligence and robots progress to the next level, establishing cognitive abilities similar to humans.

Content

As the sense that, color plays an essential role as a fundamental visual element in various IEEE-related technological domains, including molecular visualization, image processing, and user interface design. The strategic application of effective color mixing and matching techniques significantly enhances the clarity, interpretability, and visual impact of complex data representations, thereby improving user engagement and facilitating cognitive comprehension. Traditional approaches to color harmonization often rely on fixed rules such as monochromatic, analogous, or complementary schemes, which are typically derived from

established color theory principles based on the color wheel and standard color models like HSL (hue, saturation, lightness). Nonetheless, these conventional methods may fall short in accounting for perceptual differences among users, contextual relevance, and the diverse operational scenarios encountered in practical applications. Therefore, there is a need for more advanced, perceptually motivated color models and adaptive algorithms within IEEE standards to optimize visual information communication across heterogeneous user interfaces and data modalities [1, 2].

This research introduces a novel methodological framework for color palette generation, integrating foundational theories of color harmony-such as color mix and match complementary, color mix and match analogous, color mix and match segmentation and color mix and match triadic schemes-with advanced perceptual color difference metrics, and other standardized algorithms referenced. The proposed approach utilizes advanced computational techniques, including multi-objective optimization algorithms and machine learning-based refinement processes, to systematically extract and refine color palettes. These palettes are optimized not only for aesthetic coherence but also for functional criteria such as interpretability, color contrast, and accessibility compliance, specifically targeting inclusivity for users with color vision deficiencies. This methodology emphasizes reproducibility, scalability, and adherence to current best practices in color science and human-computer interaction, aiming to facilitate its integration into diverse design workflows and assistive technologies.

We (this research paper) suggested a cognitive approach in color mix and match learning by utilizing the support vector machines (SVM) with radial basis function kernels, can decode color mix and match terms from emotion ratings significantly above chance, indicating moderate specificity and consistency in color-emotion mappings. This approach quantifies both universal and culture-specific aspects of color cognition, so that we can teach the robot the cognitive sense of belonging, what the color tone feels like.

This innovative approach with generative artificial intelligence (GAI) models, utilizing autoencoders, will be effectively integrated into cognitive approach color mix and match segmentation models of decision-making to predict utilities associated with stimuli, incorporating features such as color, shape, and texture. These models enhance the prediction of human learning and decision processes by capturing internal representations of stimuli.

Further, the cognitive approach concept in color mix and match computing frameworks utilizes machine learning to analyze color relationships, symbolic meanings, and by saving the big data, from the human color mix and match approach that enables human learning systems to learn patterns and predict color usage in context. That can help the robot machine learning by learning the color mix and match approach. This research article mix and match color learning method can make the robot to learn about the cognitive ability, while capturing the human learning skills, this color mix and match learning methods can also applied to generate machine color emotion, simulating human-like emotional responses to color stimuli.

Proposed Method

The new color mix and match method integrates two key components:

1) Color cognitive human palette extraction and initial color mixture and matching learning capability: Using an automatic tool, through semi-automatic tools available on the internet, palettes are derived from source images of humans (using pointers such as 'I'm not a robot') and datasets categorized by color mood (e.g., colorful, muted) to encompass a comprehensive and pertinent color spectrum. This approach minimizes subjective bias and guarantees the inclusion of significant yet less prominent colors.

2) Color cognitive human palette extraction and initial color mix and matching involve using semi-automatic tools like segmentation of mix and match approach with remoralization method. This can generate color palettes from source images or datasets based on specific color moods, such as colorful or muted, and most importantly, reduce noise. This method aims to encompass a broad and relevant range of colors, reducing subjective bias and ensuring that significant but less prominent colors are included.

Traditional Method

Item segmentation algorithms are traditional computational methods used for partitioning visual or data items into distinct, meaningful segments. These algorithms are fundamental in fields such as computer vision, image processing, and pattern recognition. They leverage sophisticated mathematical models and IEEE-standard terminologies to improve the accuracy and efficiency of segmenting complex datasets.

Techniques such as clustering, and machine learning-based methods are typically employed to enhance the delineation of items within diverse datasets, facilitating enhanced analysis and interpretation in various IEEE-standard-based research and application domains.

Figure 1. Item segmentation algorithms.

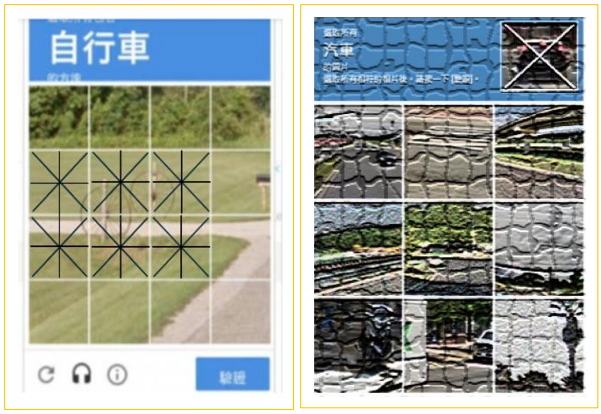

Figure 2. Triangular arithmetic.

Triangular arithmetic refers to computational methods and mathematical techniques that leverage properties of triangular structures, such as matrices, graphs, or numerical patterns, to optimize and streamline calculations. These methods are prevalent in various fields including numerical analysis, graph theory, and signal processing, where they enable efficient computation and data manipulation. The approach often involves decomposing complex problems into simpler triangular components, facilitating faster algorithms and more stable solutions. By harnessing the inherent properties of triangular configurations, such as the ease of solving linear systems via forward and backward substitution. But it have a drawback of lack of cognitive learning.

Innovative Method

Figure 3. Color segmentation algorithm method concept.

Our advanced color segmentation algorithm offers a powerful way to improve image processing applications, making them more accurate and efficient. This innovative approach helps ensure better results for a variety of robot learning cognitive needs.

Figure 4. Color mix and match algorithms method concept.

Color mixing and matching algorithm methodology presents a comprehensive methodology for the development and implementation of color mixing and matching algorithms. It encompasses advanced techniques for color analysis, selection, and combination, utilizing color mix and match computational concept to ensure optimal performance in various applications. The approach prioritizes precision, efficiency, and scalability, aligning with IEEE standards for technical rigor and clarity.

Figure 5. Point dot color mix and match algorithm concept.

The point dot color mix and match algorithm concept presents a systematic approach for optimizing color selection and matching processes within digital imaging and display systems. This algorithm employs advanced computational techniques to accurately analyze color properties and enhance visual coherence, ensuring consistency and aesthetic appeal in various applications. Its design incorporates principles aligned with IEEE standards for digital communication and signal processing, aiming to improve reliability, precision, and scalability in color management solutions.

Figure 6. Color mixing and matching focus point algorithm concept.

An advanced methodology for color mixing and matching focus point determination employing algorithmic techniques optimized for accuracy and computational efficiency. This approach concept leverages sophisticated models and IEEE-standard terminology to enhance the precision and reliability of the focus point algorithms within color imaging systems. That can significantly reduce noise.

To provide a clearer photo image.

Figure 7. Est simulation image.

Discussion and Insight

This article innovatively proposes a point learning method based on color merging, using color as the basis for mix and match, and then integrating it, and using the renormalization method to reset and restart the image so that the color points can become lines and connections. The color point learning method enables artificial intelligence and robots to advance to the next stage and establish cognitive human-like cognitive abilities.

With this innovative method, which can modify and improve the current situation. That is, the existing algorithm, which also employs the Denial of Service (DoS) methodology, has demonstrated limited advancement over the past decade. Notably, algorithms such as LR (logistic regression) and D Roght (possibly a typo for Dijkstra's Algorithm or similar) are associated with methodologies like the trigonometric approach. However, these techniques have not yielded substantial improvements in performance or efficiency within the current research landscape, highlighting a persistent difficulty in optimizing DoS-based algorithms for practical applications. Further investigation into alternative strategies or enhancements is required to achieve notable progress in this domain.

This article explores the integration of advanced artificial intelligence (AI) algorithms with data mining and sophisticated leakage mitigation technologies, emphasizing the critical roles of transportation capacity and computational efficiency. It advocates leveraging publicly available datasets to facilitate machine learning processes that incorporate human oversight, thereby enhancing the robustness and color adaptability of AI systems. The proposed methodology introduces a novel computational color paradigm that diverges from conventional algorithms, aiming to optimize learning efficiency through innovative calculation techniques. Specifically, this research paper proposes an innovative color recognition strategy, termed the "color segmentation discrimination method," which employs human sensory data-namely color visual, color olfactory, and gustatory color perceptions-to augment AI perception and color cognitive capabilities. This multi-color-sensory approach establishes a perceptual and cognitive framework akin to human faculties, utilizing inference algorithms to accelerate learning while alleviating sole dependence on raw computational speed.

Furthermore, the methodology leverages cloud storage infrastructures for collecting large-scale human perceptual data, particularly focusing on color perception and cognitive responses. This big data collection (by I'm not a robot testing from the internet bases) enables the establishment of a comprehensive cognitive color discrimination system, contributing to the development of AI systems with improved reasoning, perception, and identification skills. The integration of human-in-the-loop learning, cloud-based data analytics, and inference-driven algorithms aims to create a more efficient, scalable, and intelligent AI framework capable of enhanced autonomous decision-making and perceptual accuracy.

Conclusion

AI algorithms rely on data mining and leakage technology, affecting transportation and calculation speed. This article aims to use public data for machine learning, breaking traditional methods. We introduce a color recognition method called the color discrimination method, which uses humans to enhance AI's perception

and reasoning, especially through senses like color, fragrance, and taste. The approach employs inference algorithms, cloud storage, and human input to improve learning efficiency, perception, and cognition, ultimately establishing a cognitive color discrimination system. This innovative color-mix and match segmentation method aims to reduce noise, and it may contribute to the IEEE industry and AI robot training systems, ultimately benefiting mankind and technological advancement.

Declarations

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