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HARNESSING AI AND EXPERT SYSTEMS: NEED TO ADVANCE HOMEOPATHY BEYOND SOFTWARE

Dr Aditi Bhasin

PGT Department of Practice Of Medicine, Bakson Homeopathic Medical College & Hospital, Greater Noida, Uttar Pradesh,India, aditi.bhasin1897@gmail.com; ORCID number - https://orcid.org/0009-0008-5480-115X

Abstract

We all recognise that technology has a potential to alleviate burdens from human shoulders. In the field of Homeopathy, this potential became evident a few decades ago with the advent of repertory software. Embracing and integrating this digital realm in Homeopathy has the power to bring about a revolutionary change. Homeopathy being a system of alternative medicine based on the principle of "like cures like," has traditionally relied on the expertise of practitioners to diagnose and treat patients. However, the complexity and subjectivity involved in homeopathic diagnosis can lead to variability in treatment outcomes. The advent of Artificial intelligence (AI) and Expert Systems(ES) offers a promising solution to these challenges. This short communication explores the limitation of homeopathic software and the need of utilizing AI and ES to its full potential.

Keywords: Artificial intelligence, Expert Systems, Homeopathy, Homeopathy Software

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Introduction

Artificial intelligence has become one of the fastest growing areas of technology globally . The history of AI spans less than a century. John McCarthy established the AI lab at Stanford University in 1963. However, relentless advancements over the years have propelled its global application and with the introduction of OpenAI in 2020, notably through the language processing model GPT-3, catalyzed widespread adoption. The impact has been significant, prompting the National Institute of Standards and Technology to publish the initial draft of the AI Risk Management Framework in 2022.

Artificial Intelligence (AI) characterized as "the science and engineering of making intelligent machines, especially intelligent computer programs". These systems are designed to simulate human cognitive processes such as learning, reasoning, problem-solving, perception, and language understanding, and to operate autonomously or semi-autonomously to augment or replicate human capabilities. Applications that combine machinery, software, and specific data to influence reasoning and guidance are referred to as expert systems. These systems offer explanations and guidance to users, constituting one of the myriad applications within the realm of artificial intelligence.

Some of the AI intelligence features that these homeopathic software solutions like Zomeo, Synergy, and RADAR typically do not possess are listed below. This highlights that the latest advancements in homeopathy still lack the modern capabilities of today's AI.

1. Machine Learning and Adaptation:

Continuous Learning: Advanced AI systems use machine learning algorithms to continuously learn and adapt from new data, improving their accuracy over time. Most homeopathic software solutions have static knowledge bases that do not dynamically update based on new cases or user feedback.

Pattern Recognition: Machine learning models can identify complex patterns in data that might not be explicitly programmed, offering deeper insights and predictions.

2. Natural Language Processing (NLP):

Understanding Natural Language: Advanced AI systems use NLP to understand and process human language more effectively. This allows for more intuitive data entry, querying, and interaction.

Homeopathic software typically relies on structured inputs and predefined order of rubrics , which may limit flexibility. In area where rubrics escape the memory or there is a symptom complex, homeopath could be benefited from AI assisted suggestions regarding rubrics for better and more compute repertorisation by directing adding symptom in NLP. NLP enables systems to understand the context and nuances of patient descriptions, leading to more accurate symptom analysis and remedy recommendations.

3. Predictive Analytics:

Predictive Modelling: Advanced AI can predict potential health outcomes and responses to treatments based on historical data, offering personalized treatment plans.
Risk Assessment: AI systems can assess the risk of developing certain conditions or experiencing specific side effects, helping practitioners make more informed decisions and hence avoiding complications.

4. Deep Learning:

Complex Data Analysis: Deep learning models, such as convolutional neural networks (CNNs) and recurrent neural networks (RNNs), excel at analyzing complex datasets, including medical imaging and longitudinal patient data. This capability is typically not found in traditional homeopathic software.

Multimodal Data Integration: The ability to integrate and analyze data from multiple sources (e.g., text, images, genetic information) for a more comprehensive understanding of patient health.

5. Automated Reasoning and Problem Solving

Autonomous Decision Making: Advanced AI can autonomously make decisions based on a vast array of inputs and learned experiences, often performing at or above human expert levels.

Complex Scenario Simulation: AI systems can simulate various scenarios and their outcomes, helping practitioners explore different treatment options and their potential effects. 6. Personalization and Customization:

Tailored Recommendations: AI systems can provide highly personalized treatment recommendations based on an individual's unique health data and history. Personalization in homeopathic software is limited to advising dietary changes based on diagnosis. Hence there is an opportunity for providing a more intuitive and efficient experience.

Conclusion

Today's machinery necessitates extensive manuals and an understanding of machine languages, which limits its growth in the field of homeopathic advancements in the form of comprehensive expert systems. This limitation arises because we have limited opportunities to collaborate with teams of homeopaths and machine learning experts. Therefore, the development of expert systems specialized in serving homeopathy, which aim to standardize therapeutic standards without compromising the theory of individualization, having abilities like machine learning, machine adaptation, and deep learning could bring about a brighter future for this youngest field of medicine called Homeopathy.

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