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(57) Abstract :

Abstract The Ecological Mental Functioning Models-Based Chatbot System (EMFM-based Chatbot systems), represents a groundbreaking technological innovation in artificial intelligence-driven psychological support and interaction, leveraging advanced computational frameworks to create a comprehensive, adaptive dialogue platform that transcends traditional mental health technologies. This comprehensive software program interfacing integrates many environmental function paradigms integrated; with advanced natural language processing, heuristic machine learning evaluation, and actual time sentiment analysis; it provides psychological communication with perspective. This is the only system by which several relationships between biological, psychological, social, and even morphological factors can be examined in the context of the patient and what he or she needs at a given time. The communication with the user is managed through a multilevel ecological functioning framework in which the chatbot provides a profound and sensitive response to the input of the given user because the chatbot takes into account the activation of a specific psychological state and shifts in the context. It will be possible to identify sentiment, analyze mood change, introduce phases of privacy in the privacy-sensitive dialogue, and collect and process psychological data deservedly and effectively. The system employs standalone, large, pre-trained language models, learning the prompt, and the capacity to accommodate cognition-related skills for a more profound understanding of and response to some human psychological states. The new approach is an extension of the current solutions. It is a more complete, learner, and context-aware dialogue technology that has the potential of significantly enhancing the current state of the art of psychological diagnostic, therapeutic, and support applications.

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