**METHODOLOGY**

1. Data Sources and Search Strategy:

The first step in conducting this literature survey involved identifying relevant sources and databases for gathering academic and peer-reviewed research articles. Key databases utilized in this survey included PubMed, IEEE Xplore, ACM Digital Library, Google Scholar, and PsycINFO. The search was conducted using a combination of keywords and Boolean operators, including "depression detection," "AI," "machine learning," "chatbots," "facial analysis," and related terms. The search criteria focused on articles published between 2010 and 2023 to ensure the inclusion of recent advancements.

2. Inclusion and Exclusion Criteria:

The inclusion criteria for selecting articles were as follows:

Articles published in peer-reviewed journals and conference proceedings.

Articles written in English.

Articles directly related to AI-powered depression detection, chatbots, facial analysis, or their integration.

Articles containing substantial information on methodologies, results, and findings.

Exclusion criteria included articles that were not peer-reviewed, written in languages other than English, or did not provide relevant information on the chosen topics.

3. Data Collection and Screening:

The initial search yielded a significant number of articles. To streamline the selection process, a two-stage screening approach was adopted. In the first stage, titles and abstracts were screened for relevance to the survey's objectives. In the second stage, full-text articles were reviewed to determine their eligibility based on the inclusion and exclusion criteria.

4. Data Extraction and Synthesis:

The selected articles were subjected to a detailed review. Data extraction involved identifying key information, such as research methods, findings, and contributions. A systematic approach was employed to categorize and synthesize the information. Articles were grouped into thematic sections based on their relevance to the different aspects of AI-powered depression detection, chatbots, facial analysis, and integration of multiple data sources.

5. Critical Analysis and Synthesis:

The synthesized information was critically analyzed to identify trends, key findings, and emerging themes within the literature. Emphasis was placed on understanding the methodologies employed in AI-powered depression detection, the effectiveness of chatbots in mental health support, the role of facial analysis in identifying depression symptoms, and the integration of multiple data sources for comprehensive assessments.

6. Ethical Considerations:

Throughout the survey, ethical considerations regarding data privacy, user consent, and responsible AI usage were highlighted. The survey also examined how the reviewed studies addressed ethical concerns in AI-powered mental health applications.

7. Identification of Research Gaps and Future Directions:

Finally, based on the analysis of the reviewed literature, research gaps and potential areas for future research were identified. This included areas where further investigation is needed to advance the field of AI-powered depression detection and mental health support.