**Case study: A Systematic Review of Artificial Neural Networks in Medical Science and Applications**

Introduction: Artificial Neural Networks (ANNs) are computational models that mimic the structure and function of the human brain. ANNs have been increasingly used in medical science and applications, including diagnosis, prognosis, treatment planning, and drug discovery. In this research paper, the authors conduct a systematic review of ANNs in medical science and applications to provide an overview of the current state of research and identify gaps and opportunities for future research.

Background: ANNs have been used in medical science and applications to analyze large and complex datasets, improve accuracy, and support clinical decision-making. However, there are challenges in using ANNs, including the need for large datasets, the complexity of the models, and the lack of interpretability.

Methodology: The authors conducted a systematic review of ANNs in medical science and applications using a search strategy based on predefined keywords and inclusion criteria. The articles were screened and selected based on relevance and quality. The authors then analyzed the selected articles based on the research objectives, methodology, results, and applications.

Results: The systematic review identified 289 articles that met the inclusion criteria. The articles covered a range of medical specialties and applications, including radiology, cardiology, oncology, neurology, and psychiatry. The review found that ANNs have been increasingly used in medical science and applications, particularly in image analysis, diagnosis, and prognosis. The review also identified gaps and opportunities for future research, including the need for more studies on the interpretability of ANNs and the integration of ANNs with other technologies, such as natural language processing and electronic health records.

Applications: The systematic review provides an overview of the current state of research on ANNs in medical science and applications and identifies gaps and opportunities for future research. The review has potential applications in guiding future research and informing the development of ANNs for medical science and applications.

Conclusion: The authors conducted a systematic review of ANNs in medical science and applications, which identified 289 articles that met the inclusion criteria. The review found that ANNs have been increasingly used in medical science and applications, particularly in image analysis, diagnosis, and prognosis. The review also identified gaps and opportunities for future research, including the need for more studies on the interpretability of ANNs and the integration of ANNs with other technologies. The review has potential applications in guiding future research and informing the development of ANNs for medical science and applications.

References: A Systematic Review of Artificial Neural Networks in Medical Science and Applications by Omar Al-Salman Jamila Mustafina and Gailan Shahoodh

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