

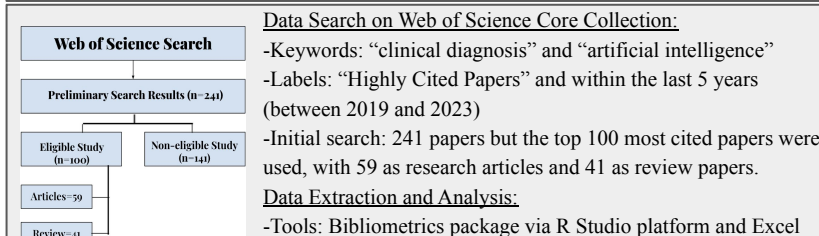
## Introduction:

With the development of artificial intelligence (AI) especially in the last five years, physicians, healthcare researchers, and medical journals are paying more attention to the role AI can play in propagating innovative medical breakthroughs. A preliminary literature review of this topic from the Web of Science Core Collection reveals that there is indeed a significant amount of AI integration within the research, development, clinical practices, and devices related to neuroscience but that there is an insufficient amount of cited AI journals in neuroscience needed to conduct further analysis on. After determining similar findings in other clinical disciplines, our study focused on comparison of AI integrated research between various health concerns to that of neuroscience-related ones.

## Objectives:

- To qualitatively compare the amount of AI research of the top 100 most cited papers within the past five years in clinical diagnosis to that specifically of neuroscience-related ones
- To determine the resulting social implications of the study's findings and the need of AI integrated research in neuroscience medical discoveries.

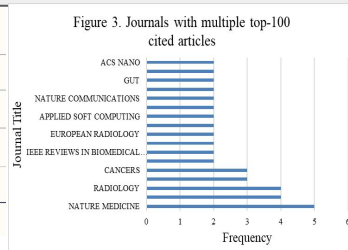
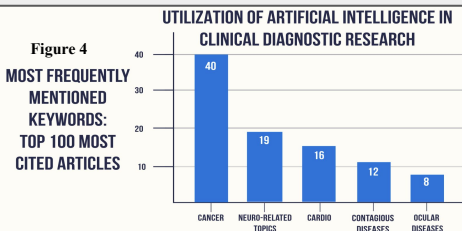
## Methods:



## Results:

Journals with multiple top-100 cited articles include Cancers, Radiology, and Nature Medicine (Figure 3). All senior authors with the most cited papers, many of them from Harvard University, had at most two papers in AI research. (Figures 1, 2).

Figure 4, a subsequent comparison of keyword frequencies with the five most global medical concerns with bibliometric analysis, was mostly used for data analysis as it reveals that AI applications are primarily discussed in the medical fields of cancer (40 papers), distantly followed by 19 research papers in neuroscience, 16 in cardio, 12 in contagious, and 8 in ocular diseases.



## Discussion:

Due to cancer global significance and the generally high cost of research and development that comes with AI, there is a low proportion of published journals that combine neuroscience innovation with AI technological breakthroughs. The current increase of AI resource availability combined with prevalence of neurological diseases (now affecting over 15% of the global population) warrants clinicians and medical device researchers to consider AI as a legitimate, viable tool that is able to improve the accuracy and sustainability of their products and services. More significantly, an increase in AI integrated neuroscience research would mean potential of decreased associated costs of medical neurological care as well as the improved livelihood and quality of life of those suffering from neurological disorders.

## References:

- Web of Science, Biblioshiny, RStudio Platform
- Van Schependom, J., & D'haeseleer, M. (2023). Advances in Neurodegenerative Diseases. *Journal of clinical medicine*, 12(5), 1709. <https://doi.org/10.3390/jcm12051709>

