Growing involvement of AI techniques in cancer research

Agamdeep Singh

Goal

To analyse the involvement of AI in cancer over time and see if there are any trends.

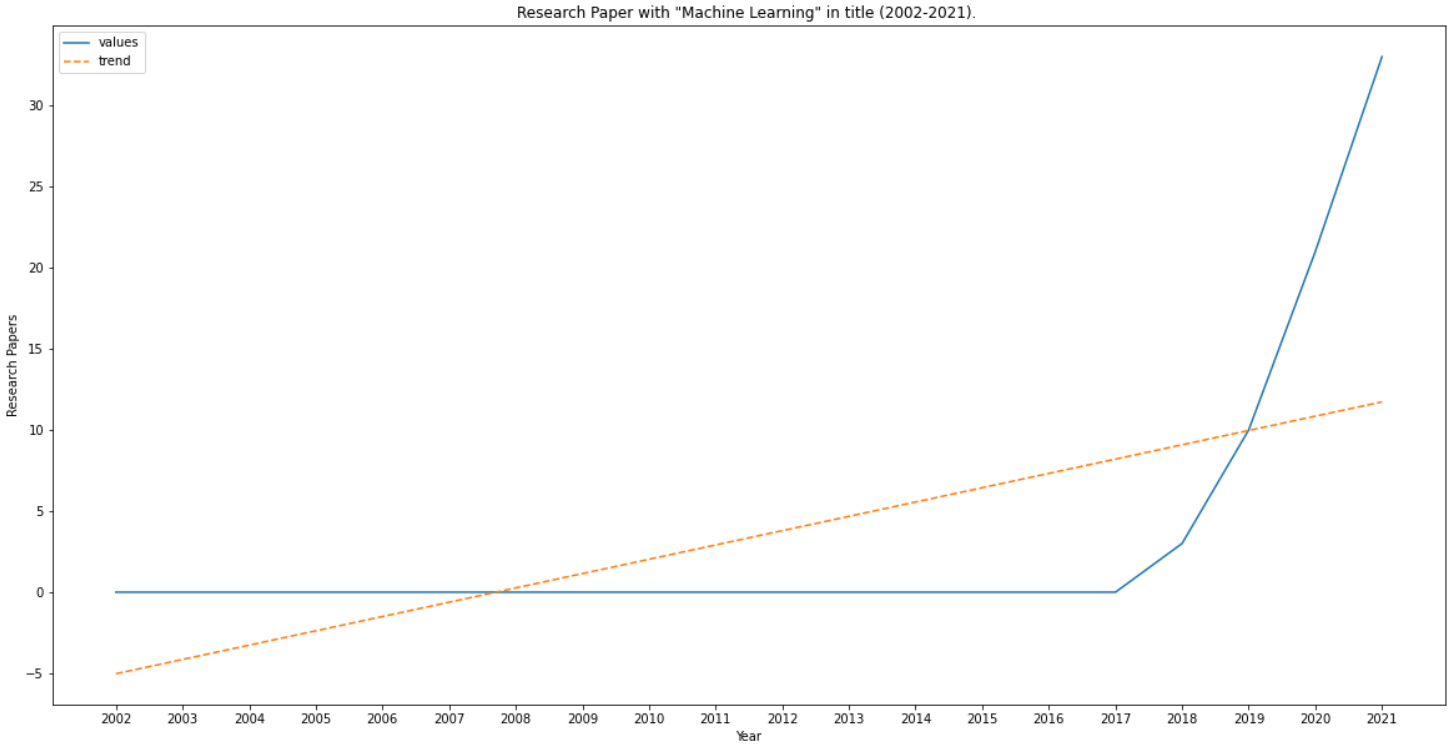
Approach

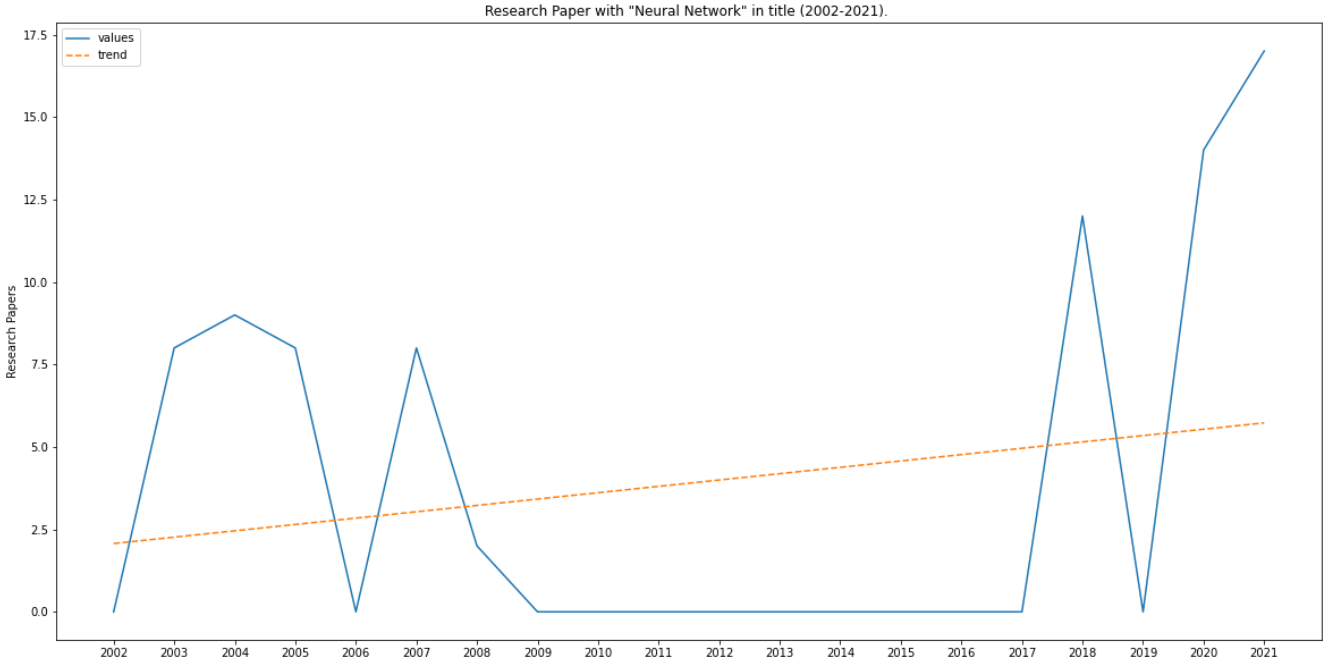
- For the purpose of the analysis, we take the American Association for Cancer Research**(AACR)** conference paper as a case study. Since it is a prestigious conference in the field of cancer research, we can safely assume that it represents the general trends of the cancer research community.
- We us **Google Scholar** as our search engine, as their ranking algorithm is well known for its ‘relevancy’ metric.
- We search for the following keywords: **AI, Machine Learning, Neural Network**.
- For each keyword, we scrape the paper info for the **first 10 pages** for the Google Search query: ‘{keyword} source:AACR’ for the top results between 2002 and 2021.
- For each keyword, we then parse the title for publishing year.
- We then derive a distribution of papers over time for each keyword.
- Plot distribution along with trend line.
- Library Used: **SerpAPI**

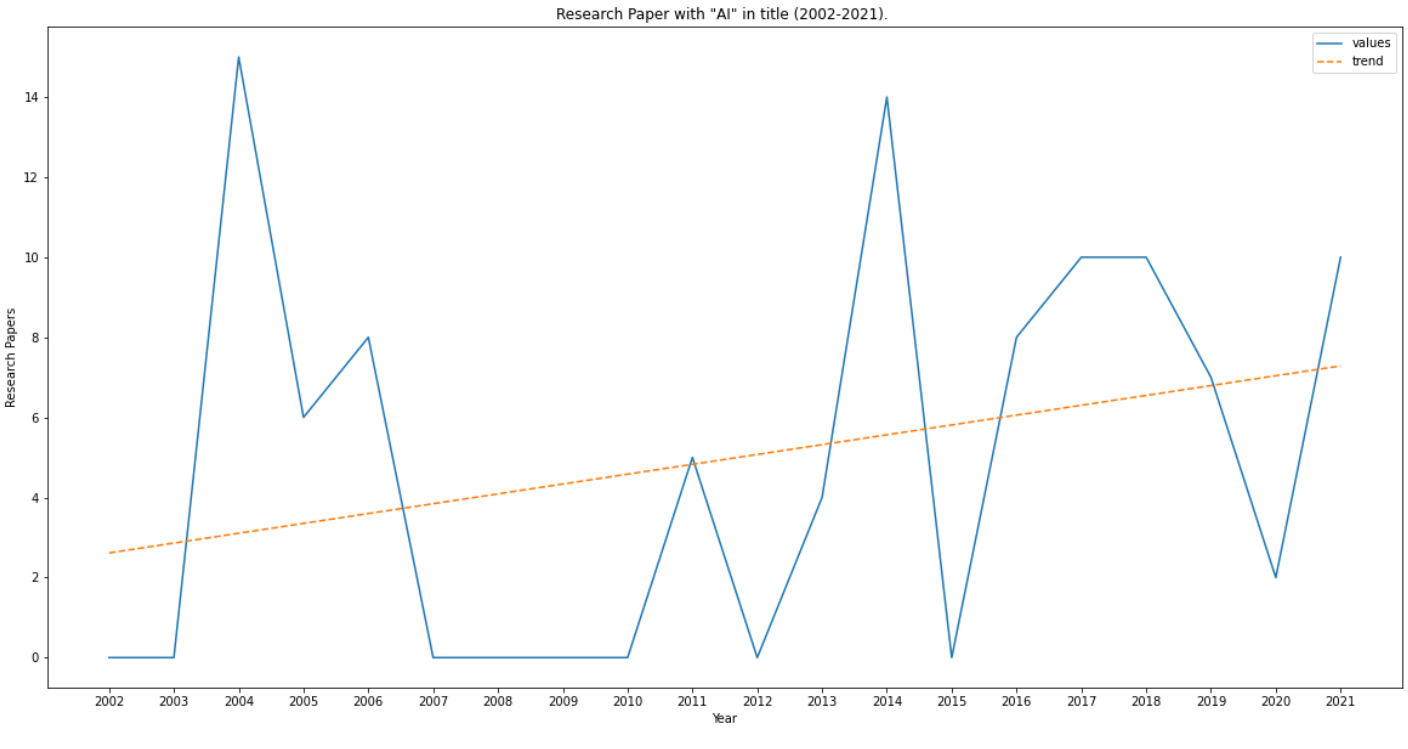
Results

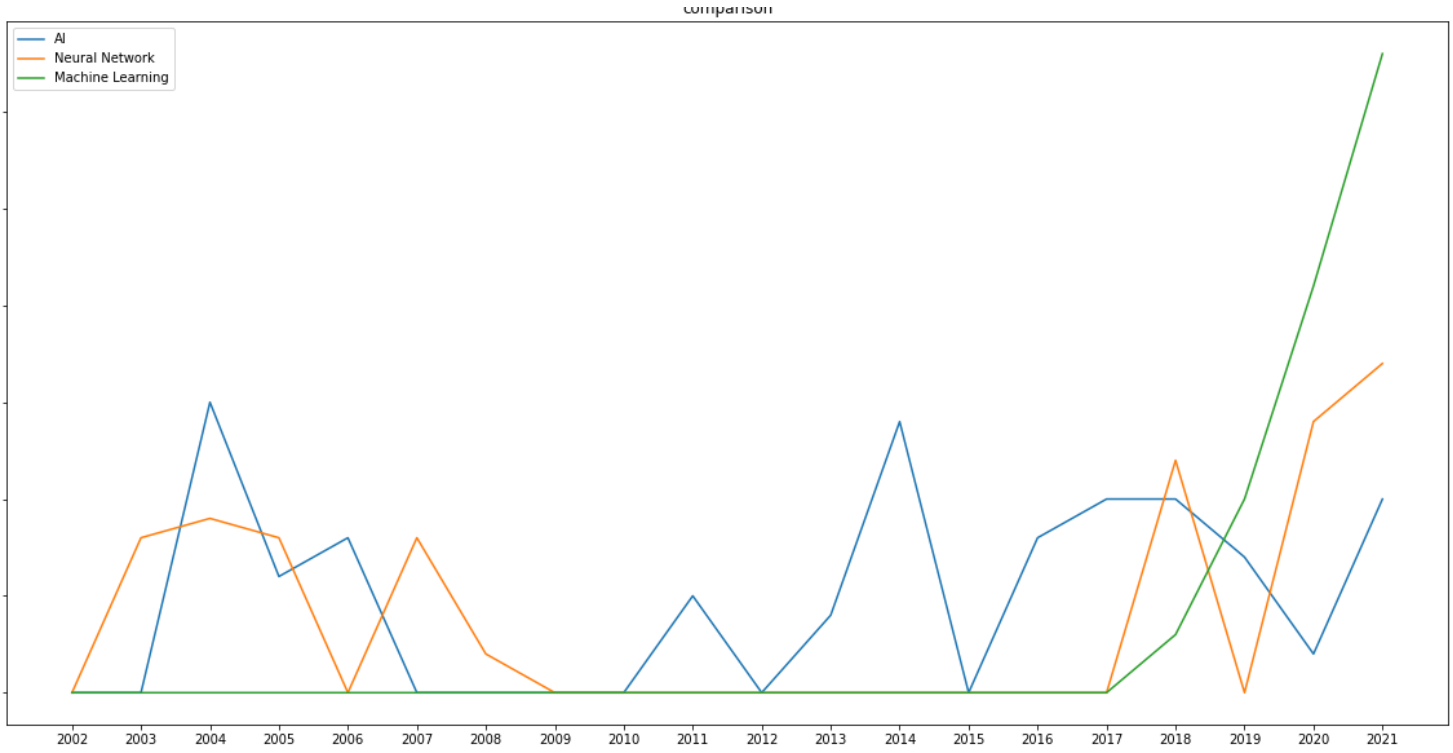
We observe that there is a general increase in the usage of the keywords AI, Neural Network, Machine Learning in the title of cancer research papers.

We present our results as plots below, numerical data is available in the accompanying CSV files.


Research Paper with "Machine Learning" in title (2002-2021).
values
trend
Research Papers
Year


Research Paper with "Neural Network" in title (2002-2021).
values
trend
Research Papers


Research Paper with "AI" in title (2002-2021).
values
trend
Research Papers
Year


comparison
AI
Neural Network
Machine Learning
30
25
20
15
10
5
0
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021