

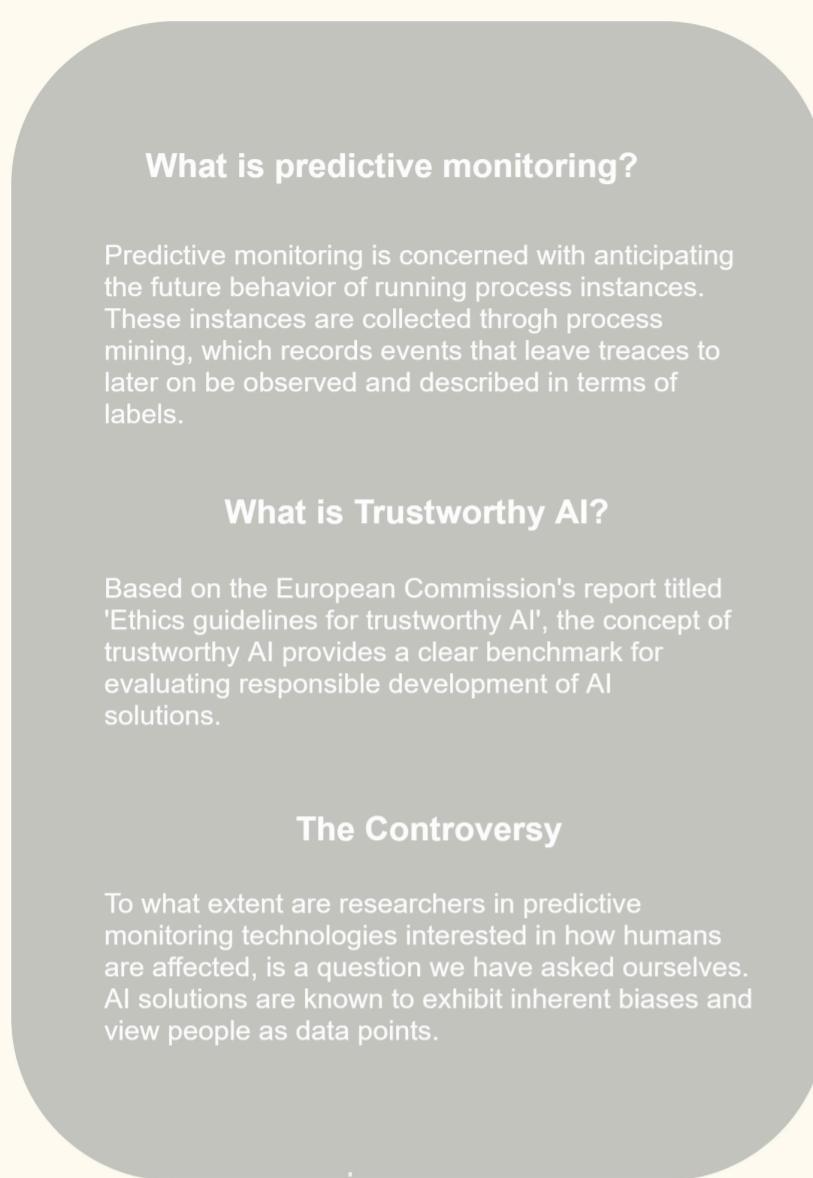
The need of trust in predictive artificial intelligence

Mapping Controversies 2022

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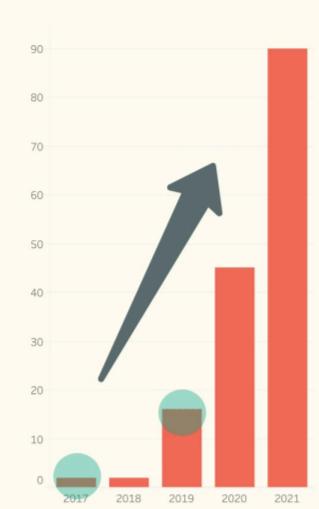
THE NEED OF TRUST IN PREDICTIVE ARTIFICIAL INTELLIGENCE

Exploring the controversy in research practices between predictive monitoring and trustworthy AI



TRUSTWORTHY AI AND PREDICTIVE MONITORING ARE EMERGING TECHNOLOGIES

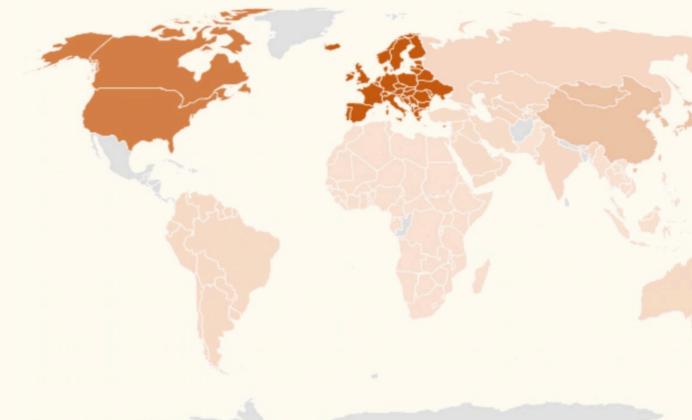
Trustworthy AI timeline



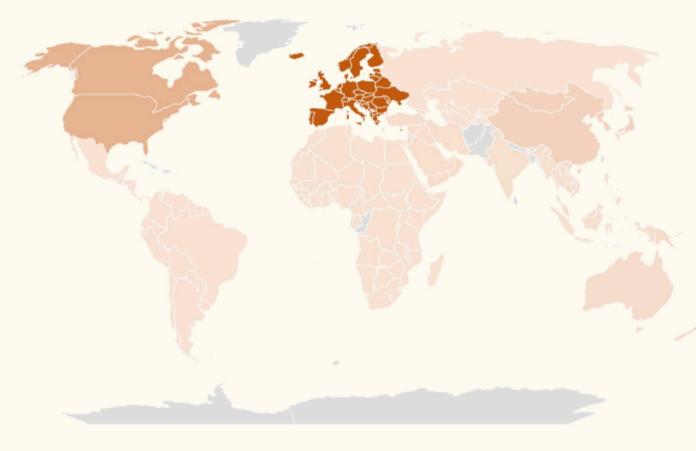
Predictive monitoring timeline



THE LITERATURE IS CENTRED IN EUROPE AND NORTH AMERICA

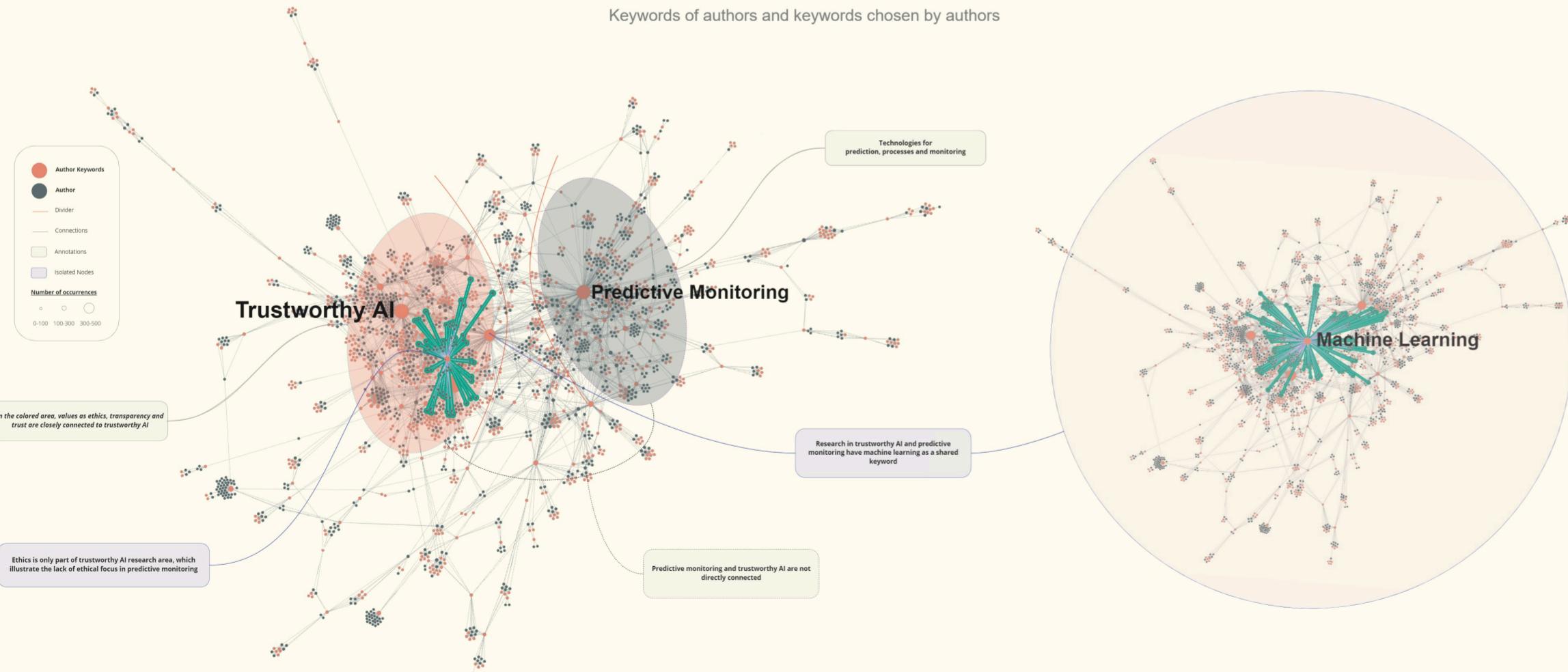


As part of our analysis placing where predictive monitoring and trustworthy are being researched in the academia, we have grouped countries in regions in the world where most research is being done, which is presented worldwide, primarily concentrated in western countries across Europe and North America for both fields.



IS PREDICTIVE MONITORING WITHOUT ETHICS?

Keywords of authors and keywords chosen by authors

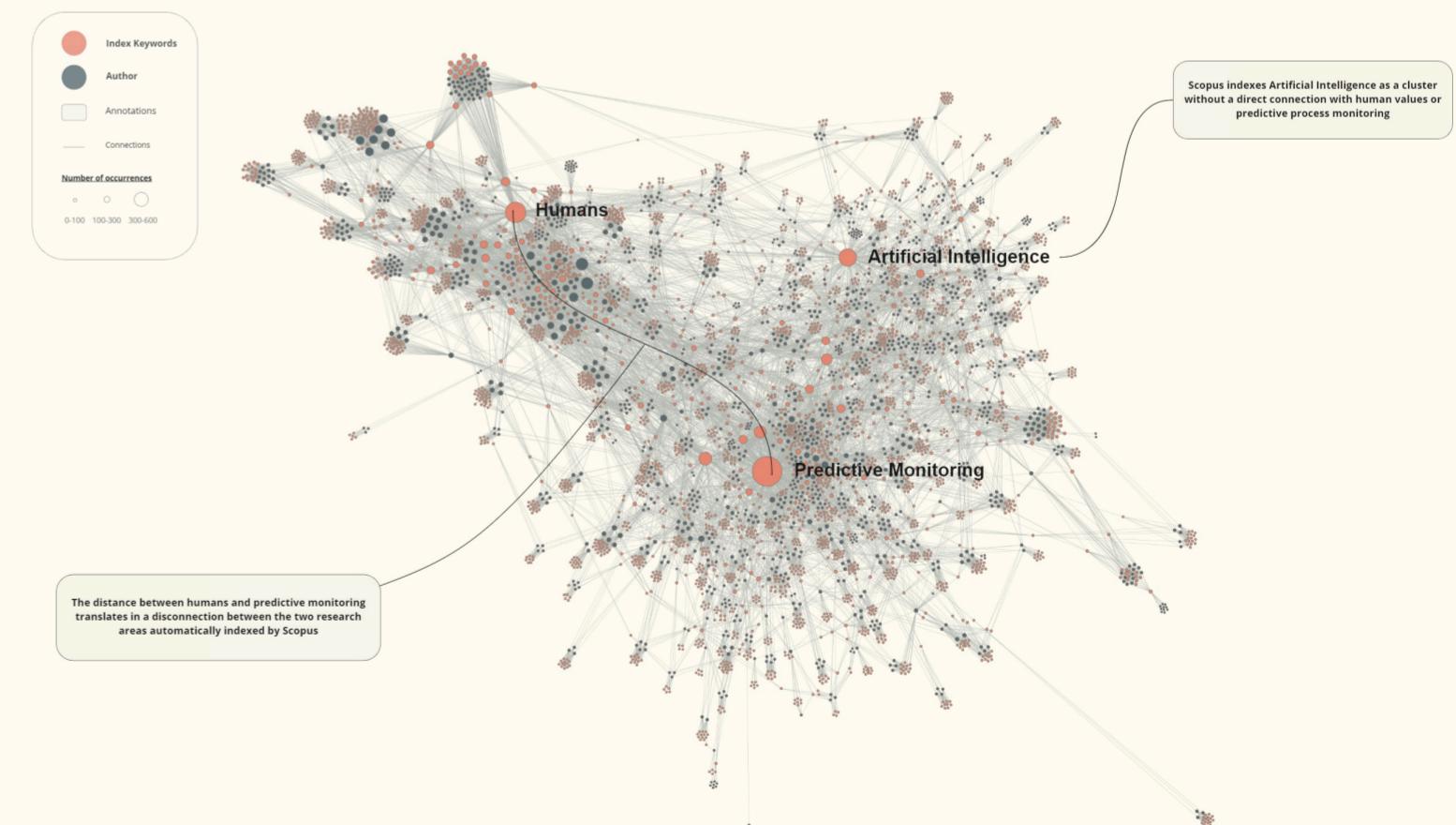


This visualisation shows the relation between keywords used in research on the topics of AI and predictive monitoring by extracting data from the scientific database Scopus. The keywords were connected with the authors in a so-called bipartite network where more frequently used keywords appear proportionately larger. The main finding shows how trustworthy AI and predictive monitoring are not interconnected directly. This gap between them illustrates how they do not mention one another, but more importantly, how the human research area is not sufficiently discussed in the research on predictive monitoring. When zooming into the network, we see how keywords such as ethics are only referred in the research about trustworthy AI, which is problematic because of predictive monitoring's impact on citizens.

The lack of interest in understanding how the human is going to be affected by predictive monitoring is alarming. Both because this technology is receiving more attention, and the fact that several components of these processes and prediction models monitor how humans interact with technology, which translates into a direct impact on their lives.

SCOPUS' PERSPECTIVE ON THE LITERATURE DIFFERS FROM THE AUTHORS'

Keywords chosen and standardised by Scopus



On the contrary of the previous visualisation, where authors had the choice of keywords to describe their work, in this visualisation, the own search algorithms from the scientific database selected the more appropriate keywords to index papers. The way in which this is done is not publicly available, which also represents a problem with the transparency of AI.

This is an example of how, despite looking for the same, the internal search function indexes differently to the authors. But, why is it so different? If we compare, the most relevant keywords are humans, artificial intelligence and predictive monitoring, being the distance between them very significant. In general, this is a similar finding as the previous visualisation, but, this could change the narrative because, when we speak about humans, the related topics are complex, including social, political, economic and several other areas. Nevertheless, the complexity of interrelating different research areas is for granted; the question is, is a machine capable of sorting out and deciphering this complexity as a human would do? Would it be more or less optimal? The answer is that, as with every emerging technology, the growth of its applications tends to be unpredictable. Still, it is possible to investigate how to improve the foundation of those emerging technologies.

