# Article information:

Mapping of machine learning approaches for description, prediction, and causal inference in the social and health sciences | Science Advances  
<https://www.science.org/doi/10.1126/sciadv.abk1942>

# Article summary:

1. This paper provides a comprehensive, systematic meta-mapping of research questions in the social and health sciences to appropriate machine learning (ML) approaches.

2. The mapping is intended to help researchers fully exploit the benefits of ML while considering domain-specific aspects relevant to the social and health sciences.

3. The paper outlines common research purposes in the social and health sciences, such as estimating prevalence of adverse outcomes, predicting risk of an event, and identifying risk factors or causes of adverse outcomes, and explains common ML performance metrics.

# Article rating:

Appears well balanced: The article presents the information in a reliable and balanced way, without biases and prejudices. The claims made in the article are well supported and, where applicable, all sides of the argument are given opportunity to present their point of view. The article appears trustworthy and reliable.

# Article analysis:

The article is generally reliable and trustworthy due to its comprehensive overview of machine learning (ML) methodology used in the social and health sciences. It provides a systematic meta-mapping of research questions in these disciplines to appropriate ML approaches by incorporating necessary requirements for statistical analysis. Furthermore, it explains common ML performance metrics which can be useful for researchers when applying ML methods to their studies.

The article does not appear to have any biases or one-sided reporting as it presents both sides equally with no promotional content or partiality. It also does not make any unsupported claims or missing points of consideration as it provides detailed explanations for each point made throughout the article. Additionally, there are no missing evidence for claims made or unexplored counterarguments as all claims are backed up with evidence from empirical studies where possible. Lastly, possible risks are noted throughout the article which further adds to its trustworthiness and reliability.

# Topics for further research:

* Machine Learning Applications in Social Sciences
* Machine Learning Performance Metrics
* Machine Learning Algorithms for Health Sciences
* Machine Learning Model Interpretability
* Machine Learning Model Validation
* Machine Learning Model Selection Criteria

# Report location:

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