

1. Awad distinguishes between different “types” of AI. What classification scheme does the paper use and why do these types matter for scientific research?
  - a. Awad distinguishes between the different types of AI by the stage of the scientific method they are utilized in. For example, Predictive AI is used for modeling and predicting outcomes from data of science while agentic AI is actively involved in the method itself.
2. Does Awad make a clear distinction between AI as a tool and AI as a scientific collaborator? If so, what are the differences and what are some examples given to support the differences?
  - a. Yes, they do make distinctions between the two. As a tool, it can enhance and make better conclusions about data or model protein structures more efficiently and allow for instant feedback. These methods do not generate any new ideas. However AI can indeed do so as a collaborator, making hypotheses, designing experiments, etc.
  - b. The difference between the two is that one builds upon predefined tasks while the other provides new ways of thinking through new proposed explanations or experiments.
3. Do these examples suggest a real shift in how science is conducted, or mostly an extension of existing methods?
  - a. Yes, it does support a shift because AI is starting to add new ways of thinking which previously thought was exclusive to humans. However, experiments are solely done with human supervision and most likely will not be conducted autonomously.
4. What are some limitations or risks of using AI in science? How do these relate to issues such as interpretability, bias, reproducibility, or theory formation?
  - a. The training data may have bias, resulting in bias proposing ethical issues regarding the medical field
  - b. Private information could be accessed by AI, resulting in ethical and legal breaches of information
5. According to Awad’s arguments, is AI more likely to accelerate scientific discovery or to reshape the scientific method itself? Do you agree or disagree?
  - a. As of right now, AI is accelerating the scientific method but has the potential in the future to reshape the scientific method