

AS Review



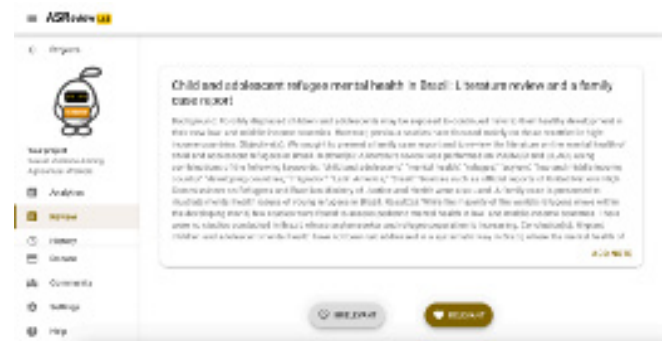
The artificial intelligence (AI) tool, AS Review streamlines systematic literature reviews by prioritizing and efficiently going through large volumes of academic papers. Researchers and students can utilize this tool when conducting projects or systematic literature reviews involving many articles. This AI tool helps filter articles irrelevant to the project aims or research questions.

Highlights

- Free and open-source
- Scientifically been validated as a screening tool for systematic reviews¹²³
- It lowers the amount of time needed to review a large number of articles

How to use AS Review

1. Database: Work with a librarian to develop search terms and pull literature
2. Download and install the software in three easy steps
 - Install Python
 - Install AS Review
 - Run AS Review
3. Upload database: Make sure your Excel file only has titles and abstracts
4. Train the active learning model
 - Keep in Oracle mode
 - Search relevant articles to add prior knowledge. Choose relevant or irrelevant for each article
 - Leave default settings. They have been validated for most uses
5. Screening
6. Export relevant articles once stopping point has been reached



“AS Review has significantly improved our efficiency in making progress on systematic reviews I have collaborated on, allowing us to quickly move through the steps of the process while still maintaining rigor in our research methods.” - Public Health Researcher

If you have any questions or would like more information, please contact me at sarahytorres02@g.ucla.edu.

Evidence base

1. Ferdinands, G., Schram, R., Bruin, J. D., Bagheri, A., Oberski, D. L., Tummers, L., & Schoot, R. V. D. (2020). Active learning for screening prioritization in systematic reviews-A simulation study.
2. Oude Wolcherink, M. J., Pouwels, X. G. L. V., van Dijk, S. H. B., Doggen, C. J. M., & Koffijberg, H. (2023). Can artificial intelligence separate the wheat from the chaff in systematic reviews of health economic articles?. *Expert Review of Pharmacoeconomics & Outcomes Research*, 23(9), 1049-1056.
3. Van De Schoot, R., De Bruin, J., Schram, R., Zahedi, P., De Boer, J., Weijdemans, F., ... & Oberski, D. L. (2021). An open source machine learning framework for efficient and transparent systematic reviews. *Nature machine intelligence*, 3(2), 125-133.

Key terms and definitions

Agricultural/aquacultural worker: For this study, we are considering agricultural/aquacultural workers to include people working in the food supply chain's production or processing sector. Examples of workers include farmwork, commercial fishing, and processing of livestock or poultry.

Abstract and title screening: Typically independently by two screeners (preferably one topic area expert and one methodological expert) (Li et al., 2022)

AS Review: A learning tool that streamlines systematic literature reviews by prioritizing and efficiently going through large volumes of academic papers (Utrecht University, 2023)

Data extraction sheet: Extract all relevant data and assess the risk of bias from each study (Li et al., 2022)

Full-text screening: Typically conducted independently and in duplicate, screeners apply the same study eligibility criteria to the full-text articles to confirm whether the studies described in them truly are eligible for the systematic review (Li et al., 2022)

Method: Strategies, processes, or techniques utilized in the collection of data or evidence for analysis in order to uncover new information or create better understanding of a topic (University of Newcastle Library, 2024)

Mixed-method: Combines qualitative and quantitative data (Tenny et al., 2022)

Qualitative research: Gathers participants' experiences, perceptions, and behavior, and answers the hows and whys (Tenny et al., 2022)

Quantitative research: Collecting numerical data points or intervening or introducing treatments, and answers how many or how much (Tenny et al., 2022)

Sexual violence: A sexual act that is committed or attempted by another person without freely given consent of the victim or against someone who is unable to consent or refuse (CDC, 2014)

Systematic literature review: Identifies and synthesizes all relevant studies that fit prespecified criteria to answer a research question (Li et al., 2022)