

Defining Effectiveness in One-Phase Technology-Assisted Review

David D. Lewis¹, Lenora Gray¹, Aravind Kuchibhatla^{1,2} and Mark Noel¹

¹Redgrave Data, Chantilly, VA, USA

²Rice University, Houston, TX, USA

Abstract

A persistent source of confusion in one-phase technology-assisted review (TAR) is around how to interpret the notion of prediction when evaluating such a review. We examine the conflicting assumptions that have been made on this point, and what they imply for the basic contingency table quantities and the associated effectiveness measures. This provides insight into the remarkable array of recall estimators that have been proposed in TAR, and how to deal with anomalies such as logically impossible estimates.

Keywords

evaluation, statistical estimation, effectiveness measures, active learning

preprint

ALTARS 2023

✉ dave.lewis@redgravedata.com (D. D. Lewis); lenora.gray@redgravedata.com (L. Gray); aravind.kuchibhatla@redgravedata.com (A. Kuchibhatla); mark.noel@redgravedata.com (M. Noel)

🌐 N/A (D. D. Lewis); N/A (L. Gray); N/A (A. Kuchibhatla); N/A (M. Noel)

🆔 N/A (D. D. Lewis); N/A (L. Gray); N/A (A. Kuchibhatla); N/A (M. Noel)



© 2023 Copyright for this paper by its authors. Use permitted under Creative Commons License Attribution 4.0 International (CC BY 4.0).

CEUR Workshop Proceedings (CEUR-WS.org)

¹<https://www.justice.gov/file/1096096/download>