ALM: An R Package for Simulating Associative Learning Models

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Animal and human learning is often studied by experimental tasks in which subjects are required to indicate a predicted outcome based on the presence or absence of stimulus events. Although current learning theories take either an elemental approach or a configural approach to stimulus representations, formal models of associative learning are essentially connectionist models and their output are evaluated, qualitatively, against patterns of experimental results from studies of similarity, discrimination, categorization, and so on.

This paper presents an R package for simulating predictions of Harris's elemental model and Pearce's configural model for associative learning. Researchers can readily generate graphical representations of model predictions by specifying experimental tasks as data frames and providing appropriate parameter values to R functions. The ability to visualize model predictions will facilitate testing these two associative learning models across a variety of experimental situations.

References

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