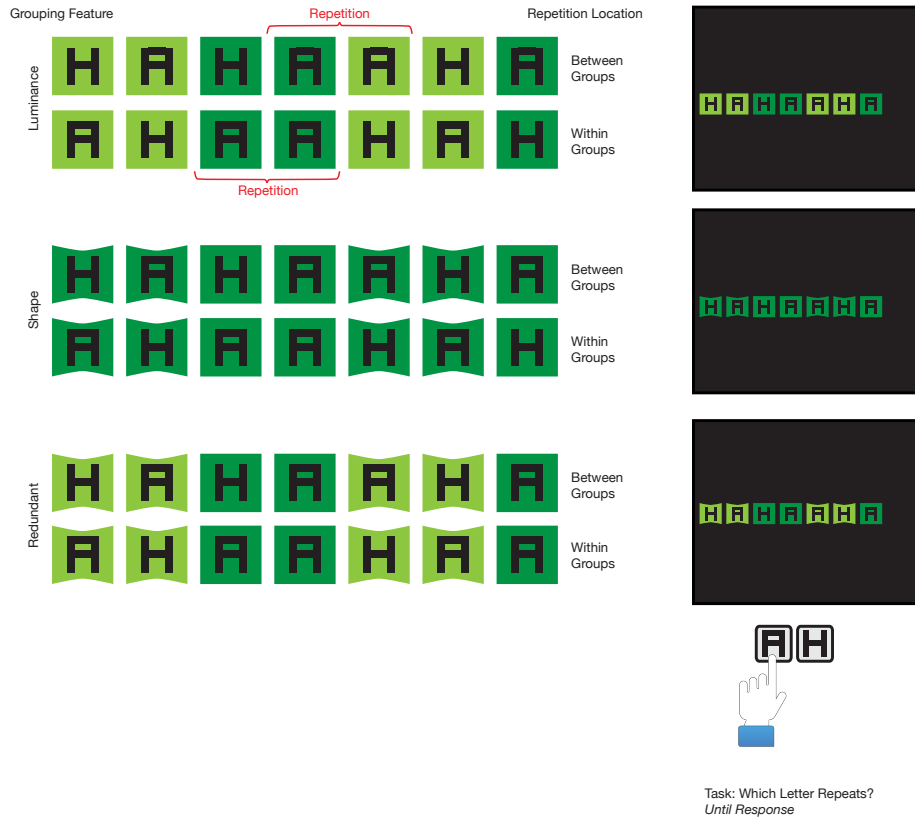


# Redundant Coding Can Improve Segmentation in Multiclass Displays

Christine Nothelfer<sup>1</sup>, Michael Gleicher<sup>2</sup>, & Steven Franconeri<sup>1</sup>

<sup>1</sup>NU, Department of Psychology; <sup>2</sup>UW Madison, Department of Computer Sciences

**Experiment 2:** Is the grouping of objects stronger when they are redundantly encoded?



## Methodology

We used the Repetition Discrimination Task<sup>1</sup>, a common measure from perceptual psychology, to test similarity grouping cue strength. Grouping strength is revealed by the **reaction time (RT) advantage for within-group repetitions over trials with between-group repetitions**.

## Task

Which letter repeats?

## Procedure

Participants viewed the display until they responded.

## Conditions

Grouping Feature (Luminance, Shape, Redundant)

Letter Repetition Location (Between Groups, Within Groups)

## Hypothesis

Redundant feature RT advantage > either feature alone RT advantage

## Results

The RT advantage (between-group RT – within-group RT) was significantly **greater for redundant trials** than for shape trials and luminance trials.

## Conclusion

Grouping of objects benefits from feature redundancy.

<sup>1</sup>Palmer, S. E., & Beck, D. M. (2007). The repetition discrimination task: An objective method for studying perceptual grouping. *Perception & Psychophysics*, 69(1), 68-78.