Collective Recommendations

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Abstract

Some abstract

1 Section

This is how you *do italics*.
And this is how you *emphasize*

1.1 Subsection

Reference to Section 1

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code text
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> And a quote

Footnote[1]
A bold **letter**

References

Referencing [2015] in text. Speaking about work [Elkind *et al.*, 2015].

1.2 Haukur's work

One idea on scoring vectors to, perhaps, capture more realistic preferences.
Three voting rules.

Capturing interest groups

Instead of considering the borda scoring vector when maximizing utility we might want to use a vector which gives the first candidate marginally more points than the second candidate and so on until we reach the middle candidate then the margin starts to grow again until it reaches what it was in the beginning. This allows voters to select a few items which they "really like" and a few items which they "really hate". Think of $-x^3$.

Schulze rule

Has many nice properties and is closely related to the 20% minimal requirement.
Computationally feasible.

[1] blurg

Θ-Smith set

The Θ-Smith set is the smallest non-empty set of candidates s.t. each member of the set defeats every other member outside the set in $\Theta\%$ of cases.
The Θ-Smith set is a Condorcet extension.
A suggestion of an algorithm which selects a "good" Θ-Smith set. Compute the Smith set for $\Theta = 50$ (the normal Smith set), check if it satisfies the cost restricitons. Second, check the upper-bound by finding the Smith set of $\Theta = 100$, if it satisfies the cost restriction, select it. Depending on the case the cost restriction was not satsfied we need to iterate over the interval in which the cost restriction break, start iterating from $\Theta = 50$ and increase/decrease Θ by $(100 - 50)/2 = 25$ or $(50 - 0)/2 = 25$ until a set is found which satisfies the cost restrictions (when found, there might be multiple.).
Computationally feasible.

K-plurality rule

The *k-plurality rule* with $k < |A|$ is a *positional scoring rule* with the same scoring vector as the normal *plurality rule*, $(1, 0, \ldots, 0)$, but instead of electing the alternative(s) with the highest score it elects the alternative(s) with the highest score, if the number of winners is strictly less than k then the alternative(s) with the second highest score is elected. This is done until $|W| \geq k$. If $|W| > k$ then a tie-breaker should be applied on the last iteration.
Computationally feasible.

References

[Elkind *et al.*, 2015] Edith Elkind, Jérôme Lang, and Abdallah Saffidine. Condorcet winning sets. *Social Choice and Welfare*, 44(3):493–517, 2015.