Lexicographic excellence ranking

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Seemingly unrelated situations, such as team sports, research evaluation, argumentation theory, eXplainable AI, and others, are characterized by a common problem: finding adequate solutions for ranking individuals or elements based on their performance in different groups or coalitions. Recent studies have examined this problem from a theoretical perspective using an axiomatic approach, introducing alternative fundamental properties that a *social ranking solution* should satisfy to properly convert a coalitional ranking into an individual one. In this seminar, I will focus on a particular solution, called lexicographic excellence, which aims to reward elements that appear frequently in the best coalitions. I'll present some of its recently studied properties and an axiomatic characterization, and I'll briefly introduce one of its applications in the context of feature selection.

References

[1] Aleandri, M., Fritz, F., Moretti, S. Desirability and social ranking. Soc Choice Welf 65, 721–763 (2025). https://doi.org/10.1007/s00355-025-01590-1

[2] Bernardi, G., Lucchetti, R., Moretti, S. Ranking objects from a preference relation over their subsets. Soc Choice Welf 52, 589–606 (2019). https://doi.org/10.1007/s00355-018-1161-1

[3] Gourvès, L., Moretti, S., Tamby, S. Social Ranking for Feature Selection. In Proceedings of the 24th International Conference on Autonomous Agents and Multiagent Systems, pp. 2547-2549 (2025). https://www.ifaamas.org/Proceedings/aamas2025/pdfs/p2547.pdf

[4] Suzuki, T., Horita, M. Consistent social ranking solutions. Soc Choice Welf 62, 549–569 (2024). https://doi.org/10.1007/s00355-023-01502-1