

The Cognitive Niches of Knowledge-Based Decision Strategies

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Abstract: Within the fast-and-frugal heuristics framework several strategies have been proposed to describe how people infer unknown criteria from knowledge stored in memory. An open question is how people select between the set of available strategies. We build upon previous work that maps environmental structures into mental representations to carve out for each strategy a cognitive niche, or area of applicability. Based on patterns of occurrences and co-occurrences of objects and facts in the internet, we predict the probability and latency of retrieval of factual knowledge about these objects. This allows us to simulate the applicability of different knowledge-based strategies as a function of the distribution of decision relevant information in the environment. We conclude that the problem of strategy selection might be restricted when the pattern of information occurrence in the environment and the resulting accessibility of knowledge about the decision objects in memory are accounted for.