ARTICLES PUBLISHED ELSEWHERE

SEARCHING GAME TREES UNDER A PARTIAL ORDER

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We reproduce the abstract:

"The problem of partial order game tree search arises from game playing situations where multiple, conflicting and non-commensurate criteria dictate the merit of a position of the game. In partial order game trees, the outcomes evaluated at the tip nodes are vectors, where each dimension of the vector represents a distinct criterion of merit. This leads to an interesting variant of the game-tree searching problem where corresponding to every game-playing strategy of a player, several outcomes are possible depending on the individual priorities of the opponent. In this paper, we identify the necessary and sufficient conditions for a *set* of outcomes to be inferior to another set of outcomes for *every* strategy. Using an algebra called *Dominance Algebra* on sets of outcomes, we describe a bottom-up approach to find the non-inferior sets of outcomes at the root node. We also identify shallow and deep pruning conditions for partial order game trees and present a partial order search algorithm on lines similar to the alpha-beta pruning algorithm for conventional game trees."
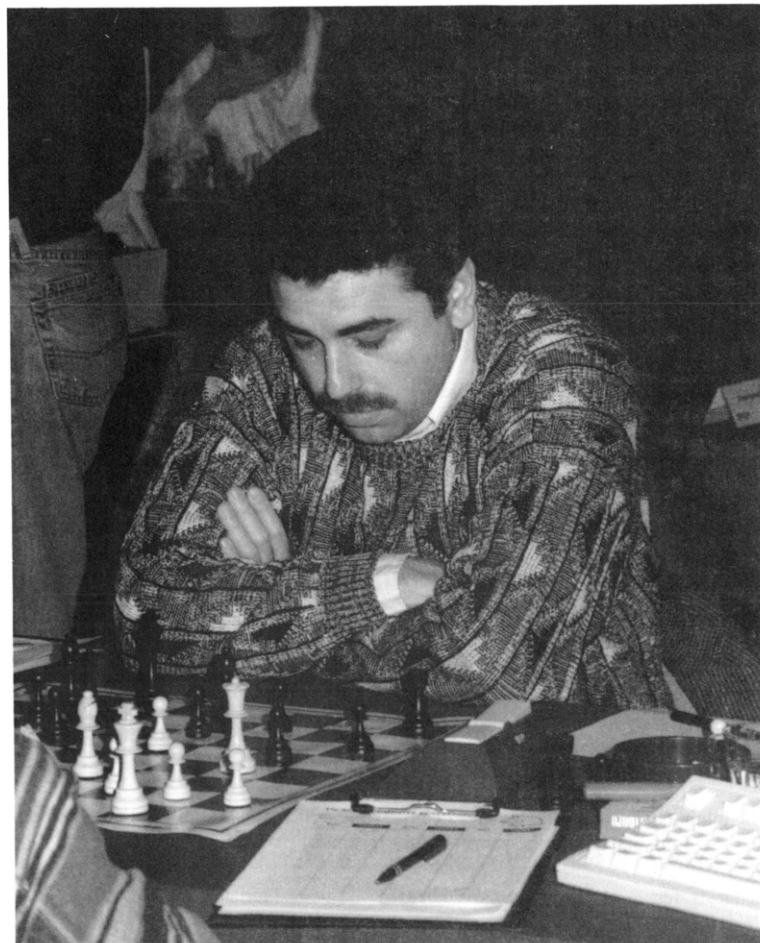
SINGLED OUT FOR HIS SCORE
Yasser Seirawan winning the
11th AEGON Tournament
with a convincing 6 out of 6.
The Hague, The Netherlands,
April 10, 1996.

Photo by Jos Uiterwijk

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