

## **On the Multi-Item Full-Information Secretary Problem**

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$n$  identical units have to be sold, one at a time, to coming bidders, until a certain deadline  $T$ . The bids arrive as a Poisson process and they are i.i.d. It is sought to maximize the expected total revenue from the  $n$  units. We characterize the optimal policy. Then, concentrating on the case where each coming bid may take on a finite number  $|C|$  of values, we show how to solve for the pertinent critical-times and for the value-functions recursively, via first-order linear differentiable equations that one can integrate. Presently, MATLAB solves the problem symbolically when  $n \times |C| \leq 12$ . For the other cases we implement an approximate numerical solution in polynomial time ( $O(n \times |C| \times T)$ ).