

Performance Bounds for the Distribution-Generated Universal Portfolio

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Some well-known universal portfolios due to Cover and Ordentlich require implementation time and memory that are not practical in daily use. With this purpose in mind, the finite order universal portfolio is introduced requiring very much lesser time and memory for implementation due to its dependence only on a fixed finite number of past stock/asset data instead of storing the whole set of past data. In our context the earlier types of universal portfolios are referred to as moving-order universal portfolios. Some bounds for the ratio of wealths of the best constant-rebalanced portfolio (BCRP) to the universal portfolio are derived. The performance of the finite-order universal portfolio has been shown to be better than that of some previously well-known moving-order universal portfolios when it is run on some stock-price data sets. An algorithm for computing the distribution-generated universal portfolio is presented.

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