

Computational Aspects of Optimization

Homework 3

- a) Implement the AV@R maximization problem using the linear formulation proposed by Rockafellar and Uryasev. You can follow the procedure explained in the “AV@R Optimization” zip file. You can apply it to a portfolio selection problem, or to another contest adjusting the constraints accordingly and providing some comments on the new contest to make it clear.
- b) Please make some comments on the results, in particular in terms of objective function. Try some sensitivity analysis in terms of results by changing the value of the confidence α , and in terms of computational complexity by changing the number of scenarios S . Whenever you make a comment on the results, a plot of the wealth distribution w_s could be helpful.
- c) Since the model in GAMS has already been provided, please implement everything in Matlab.

Any further effort will be *highly appreciated*, for instance also the implementation of the same model in R or in Excel.

Deadline: 8 May 2018