
Jamie Haddock
**A Sampling Kaczmarz-Motzkin Algorithm for Linear
Feasibility**

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We combine two algorithmic techniques for solving systems of linear inequalities, the relaxation method of Agmon, Motzkin et al. and the randomized Kaczmarz method. In doing so, we obtain a family of algorithms that generalize and extend both techniques. While we prove similar convergence results, our computational experiments show our algorithms often vastly outperform the original methods.