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## Quick and dirty estimation of latent variable models using moments: How quick and how dirty?

*I will discuss recent progress in moment based estimation. Anandkumar, Hsu. Kakade show that third order moments are approximate sufficient statistics for a class of models including mixtures, topic models, and over-determined hidden Markov models (HMMs) [1]. I will introduce the method and present estimation results for HMMs, discuss convergence as well as point to some open problems. In small test cases moment based HMM estimation can be 100-1000x faster than classical forward-backward estimation, however, at somewhat lower efficiency, i.e., "quick and dirty".*

### Reference

[1] A. Anandkumar, D. Hsu, S.M. Kakade. "A method of moments for mixture models and hidden Markov models." *arXiv preprint arXiv:1203.0683* (2012).