

1146-62-135

Yen-Chi Chen* (yenchic@uw.edu), Seattle, WA 98195. *Statistical inference with local optima*. Preliminary report.

Many statistical analyses involve finding the maximum of an objective function. This is often done by applied a gradient-ascent type method such as the EM algorithm. When the objective function has multiple local maxima, there is no guarantee that maximum we obtain is truly the global maximum. Thus, many statistical inference such as confidence intervals and hypothesis test may not have the desired properties. In this project, we investigate the effect of local optima on statistical inference. We will discuss how the estimation theory and notions of coverage of a confidence interval has to be modified to account for its effect. (Received January 16, 2019)