

1117-15-369

Michael W Berry* (mberry@utk.edu), 401 Min H. Kao Building, 1520 Middle Drive, University of Tennessee, Knoxville, TN 37996. *Unsupervised Learning Using Separable Nonnegative Matrix Factorization.*

Gillis and Vavasis have demonstrated the robustness of *separable* nonnegative matrix factorizations for solving hyperspectral unmixing problems. For such problems, it can be shown that there exists a cone spanned by a small subset of the columns of the input nonnegative data matrix. For text mining applications, such a cone can facilitate summarization and concept tracking, especially for time-sensitive documents and social media. In this study, we show how separable nonnegative matrix factorization (SNMF) can be used for both word disambiguation and topic extraction from twitter streams with no prior labeling. (Received January 18, 2016)