1126-15-326   **Haesun Park***, hpark@cc.gatech.edu, and **Rundong Du**, **Da Kuang** and **Barry L. Drake**.
Divide-and-Conquer Nonnegative Matrix Factorization (NMF) for Scalable Clustering and Topic Modeling.

Nonnegative Matrix Factorization (NMF) has been widely utilized in large scale data analytics problems. We show a fast algorithm for NMF when the reduced rank is 2, and how this fast algorithm can be combined with decision rules to generate highly scalable divide-and-conquer algorithms for clustering, topic modeling of text data, and community detection. Some substantial experimental results illustrate the utility of the divide-and-conquer NMF and our open source software, SmallK (smallk.github.io). (Received January 17, 2017)