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**Aritra Dutta\*** (d.aritra2010@knights.ucf.edu), University of Central Florida, Mathematics Department, 4000 Central Florida Blvd, Orlando, FL 32816, and **Xin Li**. *A Problem of Weighted Low-Rank Approximation of Matrices and its Applications in Machine Learning*.

We study the numerical solutions to a special weighted low-rank approximation problem. We propose two different analogs of the problem and establish their numerical solutions with convergence analysis. We also demonstrate the performance of our algorithms on real data and report the improvements in performance when weight is learned from the data over other state of the art methods. (Received September 20, 2016)