1159-62-54 **Bowen Zhao**, **Xi Xiao**, **Wanpeng Zhang**, **Bin Zhang** and **Guojun Gan***
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*Self-Paced Probabilistic Principal Component Analysis for Data with Outliers.*

Principal Component Analysis (PCA) is a popular tool for dimension reduction and feature extraction in data analysis. Probabilistic PCA (PPCA) extends the standard PCA by using a probabilistic model. However, both standard PCA and PPCA are not robust, that is, they are sensitive to outliers. To alleviate this problem, we propose a novel method called Self-Paced Probabilistic Principal Component Analysis (SP-PPCA) by introducing the Self-Paced Learning mechanism into PPCA. Furthermore, we design the corresponding optimization algorithm based on an alternative search strategy and an expectation-maximization algorithm, so that SP-PPCA uses an iterative procedure to find the optimal projection vectors and filter out outliers. In this talk, I will present the proposed method and some experimental results based on both synthetic and real data. (Received July 25, 2020)