

## Application of Regularized Low-Rank Matrix Factorization in Personalized Targeting

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**Abstract :** The Netflix problem has brought the topic of “Recommendation Systems” into the mainstream of computer science, mathematics, and statistics. Though much progress has been made, the available algorithms do not obtain satisfactory results. The success of these algorithms is rarely above 5%. This work is based on the belief that the main challenge is to come up with “scalable personalization” models. This paper uses an adaptive regularization of inverse singular value decomposition (SVD) that applies adaptive penalization on the singular vectors. The results show far better matching for recommender systems when compared to the ones from the state of the art models in the industry.

**Keywords :** convex optimization, LASSO, regression, recommender systems, singular value decomposition, low rank approximation

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