Master Thesis Recommender Systems Comparison

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$$w = (\lambda I + X^T X)^{-1} X^T Y$$

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References

- [1] "Apache Spark lightning-fast cluster computing." https://spark.apache.org/. Accessed: 2017-05-21.
- [2] P. Melville and V. Sindhwani, "Recommender systems," *Encyclopedia of Machine Learning and Data Mining*, pp. 1056–1066, 2017.
- [3] "MovieLens grouplens." https://grouplens.org/datasets/movielens/. Accessed: 2017-05-22.