

## **Deliverable 02: Latent Factor model**

The goal in this assignment is to complete the code template to produce a working Latent Factor model. The code follows the lecture and the section on the UV-decomposition on pages 329-336 of the book.

**Assignment:** You are expected to complete

- 1) *updateQuf* and *updatePmf* methods in *Util.java*.
- 2) *PredictRatings* method in *LatentFactors.java*

Although completing the template suffices for a pass on this deliverable, you are encouraged to alter the algorithm with what you have learned in the course. Its performance can be improved by:

- 1) Regularization
- 2) (Temporal) biases.
- 3) Explore number of latent factors
- 4) Global/local biases
- 5) Optimize parameters through cross-validation

**Style:** We expect you to properly comment your code so that it will be obvious to us what each line does. Furthermore, use appropriate and consistent variable naming so that it is clear what each variable refers to (e.g. *userRating*).

**Submission:** Your code has to be submitted to <https://cpm.ewi.tudelft.nl> under Data Mining: Deliverable 02. It should be a zip-file named after your student ID (e.g. 4225139.zip) with 1 folder named 'src' that contains only your source files (no data files).

The code needs to be self-contained and should not require external libraries to compile or run.

Good luck!