Multi-purpose Library of Recommender System Algorithms for the Item Prediction Task

Presentation of my Bachelor Thesis

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Implicit Feedback

	Anna	Berta	Claudia	Dagmar
The Shawshank Redemption	1		1	
The Godfather		1	1	
The Godfather: Part II		1		1
Pulp Fiction	1	1		1
The Good, the Bad and the Ugly	1		1	

Item Prediction Task

	Anna	Berta	Claudia	Dagmar
The Shawshank Redemption	1		1	?
The Godfather		1	1	?
The Godfather: Part II		1		1
Pulp Fiction	1	1		1
The Good, the Bad and the Ugly	1		1	?

Notation

	Anna	Berta	Claudia	Dagmar
The Shawshank Redemption	1		1	
The Godfather		1	1	
The Godfather: Part II		1		1
Pulp Fiction	1	1		1
The Good, the Bad and the Ugly	1		1	

Items
Users
Interactions

Leave-one-out Protocol

1. Randomly choose one interaction per user and hide them
2. Train the recommender system with the remaining interactions
3. Get recommendations for every user
4. Compare the recommendations with the hidden items

Evaluation Metrics

Contents

Non-Personalized

k-Nearest-Neighbor

Matrix Factorization

Slope One

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Motivation

General Structure