# Introduction to Recommendation System 06

1.1 History of recommendation system,

Expliciting Ratings and other Feedback Contributions,

Implicit and Implicit Ratings,

Recommender system functions.

1.2 Linear Algebra notation:

Matrix addition, Multiplication,

transposition, and inverses;

covariance matrices, Understanding ratings,

Applications of recommendation systems,

Issues with the recommender system.

# 2.0 Collaborative Filtering 06

2.1 Architecture of Collaborative Filtering,

User-based nearest neighbor recommendation,

Item-based nearest neighbor recommendation,

Model based and pre-processing based approaches,

Clustering for recommendation system,

Attacks on collaborative recommender systems,

Advantages and drawbacks of Collaborative Filtering.

# 3.0 Content-based recommendation 07

3.1 Architecture of content-based systems,

Content representation and content similarity,

Item profiles,

Discovering features of documents,

Obtaining item features from tags,

Representing item profiles,

Methods for learning user profiles,

Similarity based retrieval,

The Role of User Generated Content in the Recommendation Process.

3.2 Bayes classifier for recommendation,

Regression based recommendation system.

Advantages and drawbacks of content-based filtering

# 4.0 Knowledge based recommendation 06

4.1 Knowledge representation and reasoning,

Constraint based recommenders,

Case based recommenders,

Persistent Personalization in Knowledge-Based Systems,

Conversational Recommendation.

Search based recommendation,

Navigation-based recommendation.

# 5.0 Ensembled- Based and Hybrid Recommendation System 06

5.1 Opportunities for hybridization,

Monolithic hybridization design:

Feature combination,

Feature augmentation,

Parallelized hybridization design:

Weighted,

Switching,

Mixed,

Pipelined hybridization design:

Cascade Meta-level,

Limitations of hybridization strategies.

# 6.0 Evaluating Recommendation System 08

6.1 Characteristics and properties of evaluation research,

Evaluation design goals- Accuracy, Coverage, Confidence and Trust, Novelty, Serendipity,

Diversity, Robustness, Stability and Scalability.

6.2 Comparison between evaluation design of classification model and recommendation system, Error metrics, Decision-Support metrics, User-Centered metrics. Comparative analysis between different types of recommendation systems.