DEPARTMENT OF MATHEMATICS AND COMPUTER SCIENCE
UNIVERSITY OF SOUTHERN DENMARK, ODENSE

COMPUTER SCIENCE COLLOQUIUM

Cold Start in Recommender Systems

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Abstract:

Choosing the right product to consume is nowadays a challenging problem due to the growing number of products and services. While increasing the number of choices provides an opportunity for a user to find the products satisfying her personal needs, it may at the same time overwhelm her by providing too many choices.

Recommender Systems tackle this problem by providing to a user personalized suggestions that can match her particular taste rather than the mainstream taste. Over the past years, the researchers of recommender systems area have proposed variety of recommender algorithms. While development of algorithms is crucial, however, even the best algorithms may fail in the situation of Cold Start. This a challenging problem that happens when a new user registers to the system and requests to receive recommendations before she has provided any preference to any item (New User problem) or a new item is added to the item catalog and none of the users has yet given any preference to that new item (New Item problem).

In this talk, I will focus on the new user and the new item problems as part of the bigger cold start problem. I will discuss two potential solutions that have shown to be effective: (i) for the new user problem, I will discuss Active Learning techniques that are focused on obtaining better quality data that more aptly reflects a user's preferences; (ii) for the new item problem, I will discuss the techniques based on extraction of Visual Features, that can represent stylistic aspects of items, encapsulated within their multimedia content and can be extracted automatically, without any need for human involvement.

Host: Marco Chiarandini