ABSTRACT

Master's dissertation: 94 pages, 21 pictures, 32 tables, 1 appendix, 30 sources.

Topicality. Every day each of us receives quite a lot of information. Received information not always is relevant, which necessitates the search for sources that will be interesting and trustworthy. Most people have jobs, and many have some hobbies. In both cases, a person may face a task in learning something new, a deepening knowledge in a particular field. Also, almost every day watching movies or reading books, or listening to music. And, in order to do these actions, you must find material that will be interesting to you. Often a person diving in the huge amount of material when looking for exactly what she needs. For example, we can find up to 10, and sometimes more books on one topic, but we just don't have enough time to read all of it.

In the described cases it is necessary to ask someone advice, and of course we do not always have such an opportunity. In such cases, the aid is coming a recommender system.

Most of recommender systems issue proposals based on previously viewed or based on similar materials. One more significant problem of such systems is the focus on just one topic. These systems often can not cope with the role of counselor, when a person is interested in several topics. Also, if a person would like to know what is interesting to her like-minded people, then a recommendation based on previously viewed materials may simply not fit her.

Therefore, it is expedient to develop a technology to unite like-minded people based on activities in social networks. Through the use of technology from data science, the system will be able to cluster users with similar interests, which will allow users to recommend that part of his range of interests.

Relationship with academic programs, plans, themes. Work performed at the Department of ASOIU at the National Technical University of Ukraine "Igor Sikorsky Kyiv Polytechnic Institute" within the topic “Methods and technologies of high performance computing and performing of big data”. Governments register number 0117U000924.

The goal of this research is quality improving and boosting of preparation speed of target proposals by optimizing a method of clustering users. To achieve the goal must perform the following tasks:

– analyze the existing means of obtaining data on the activity of users from the following social networks: facebook, twitter;

– collect data about user preferences and their activities in the facebook social network.

– choose the most suitable method for the preparation of targeted offers.

– select and modify the clustering method for its best use in the system being developed.

– implement the algorithm of preparing the target proposals based on the selected methods.

Object of research – the process of combining groups of people with common interests, and use these groups to provide targeted offers.

Subject of research – methods of clustering users of social networks based on large amounts of data on their activities in these services.

The scientific novelty of the results is to modify the clustering method Affinity Propagation, to the fuzzy Affinity Propagation. And using this modified clustering method in the model of preparation targeted proposals based on certain activities of users in social networks, and based on their preferences.

Published works.

Kasianchyk D. O. Using k-means for combining data from users of social networks [Electronic resource] / D. O. Kasianchyk / Thirteenth international scientific and practical conference (MODS. – 2018). – Chernihiv: ChNTU, June 25 – 29, 2018. – pp. 155-158.

Kasianchyk D.O. Information technology of user clustering for preparation of target proposals [Electronic resource] / D. O. Kasianchyk / All-Ukrainian scientific and practical conference of young scientists and students "Information Systems and Management Technologies" (ISMT – 2018). – Kyiv: NTUU "Igor Sikorsky Kyiv Polytechnic Institute", December 29-30, 2018. – pp. 16-19.

CLUSTERING, RECOMMENDATIONS, SOCIAL NETWORKS, BIG DATA, BACK-OFFICE, FRONT-OFFICE