ABSTRACT

Explanatory note size – 100 pages, contains 23 illustrations, 32 tables, 5 applications, 31 references.

Topicality. Examines the problem of forming the market value of real estate, shows the main features of existing services that enable users to automatically calculate the value of real estate, their advantages and disadvantages. Revealed the need for improved models for predicting the cost and realizing the opportunity to choose the term during which the owner wants to find a buyer.

The aim of the study. The main target is to increase the effectiveness of real estate value prediction based on its characteristics with a limited sales period.

The object of research: software used by real estate sales sites.

The subject of research: models and methods of building decision-making systems.

To achieve this goal, the **following tasks** were formulated:

- perform an analysis of existing solutions;
- determine what information must be taken into account for prediction;
- perform an analysis of existing models and determine those that provide the highest quality recommendation;
- on the basis of these models, create a new one that will have better quality in solving the given task;
- develop a system prototype;
- evaluate the effectiveness of the prototype.

The scientific novelty of the results of the master's dissertation is two new models for predicting the market value of a real estate, which have greater efficiency in solving this problem. The result is achieved by combining existing prediction models.

The practical value of the obtained results is a prototype that evaluates apartments based on entered characteristics and the desired sale date. This system can be implemented as a separate web-service or as part of another web-service.

Relationship with working with scientific programs, plans, topics. Work was performed at the Department of Informatics and Software Engineering of the National Technical University of Ukraine «Kyiv Polytechnic Institute. Igor Sikorsky».

Approbation. The scientific provisions of the dissertation were tested at the III All-Ukrainian Scientific and Practical Conference of Young Scientists and Students "Software Engineering and Advanced Information Technologies" (SoftTech-2022 Autumn) and XIII International Scientific and Practical Conference "Scientific Research in XXI Century".

Publications. The scientific provisions of the dissertation were published in:

1) Konchinskyi V. V., Likhouzova T.A. Models for forming the market value of a real estate // XIII International scientific and practical conference «Scientific research in XXI century» 6-8.12.2022, Ottawa, Canada.
2) Konchynskyi V. V., Likhouzova T. A. Models for forming the market value of a real estate // Inter-branch scientific and technological digest «Adaptive systems of automatic control» № 2(41), 2022

Keywords: MACHINE LEARNING, PREDICTION, NEURAL NETWORKS, DECISION TREES.