

PERSPECTIVES OF USING EXPERT SYSTEMS TO PROVIDE RECOMMENDATIONS ON MILITARY ACCOUNTING

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Анотація

Розглянуто перспективність застосування технологій штучного інтелекту для формування рекомендацій у сфері військового обліку призовників, військовозобов'язаних та резервістів. Акцентовано, що використання продукційної моделі подання знань та технологій експертних систем забезпечить перевірку суб'єктивних рішень пов'язаних із процесом відбору працівників для бронювання військовозобов'язаних на період мобілізації та на воєнний час.

Ключові слова: експертна система, військовий облік, рекомендація, продукційна модель.

Abstract

The article examines the potential of employing artificial intelligence technologies to generate recommendations in the domain of military accounting, encompassing conscripts, individuals subject to military service, and reservists. It underscores the significance of utilizing the product model of knowledge representation and expert system technologies to guarantee the validation of subjective decisions pertaining to the selection process for reservists, ensuring their inclusion in military service during mobilization and wartime.

Keywords: expert system, military accounting, recommendation, product model.

Introduction

In response to the Russian Federation's military aggression against Ukraine [1], our country is implementing substantial changes across various sectors, including military accounting. As Ukraine integrates into the European Union and safeguards itself against occupation, it is updating regulations to align itself more closely with the European Union and establish itself as a leader in the defense sector, particularly in the accounting of individuals liable for military service. This includes implementing a certification program for individuals interested in military accounting and periodically adjusting the process of reserving individuals liable for military service during mobilization and wartime for certain factories, companies, and government structures.

The main part

Given the intricate processes involved in registering conscripts, individuals liable for military service, and reservists, certain existing software products have streamlined the generation of the requisite documentation. For instance, the software package «Medical Staff» [2] automates the creation of personal military registration lists. Nevertheless, alternative solutions employ outdated forms.

The state is also implementing measures to ensure that military records are exclusively stored in electronic format. In 2024, the Ukrainian parliament enacted the necessary legislation to establish the Unified State Register of Conscripts, Persons Liable for Military Service, and Reservists [3], commonly known as Oberih. Consequently, citizens belonging to these categories now have access to their personal information stored in the register through an electronic portal accessible via the mobile application «Reserve+».

Oberih's perspective is to facilitate data exchange between various authorities to maintain the currency of military records. Presently, the interaction between the Unified State Register of Conscripts, Persons Liable for Military Service, and Reservists and the Unified State Electronic Database on Education enables the verification of educational information, including form and sequence, for individuals liable for military service. In certain instances, this process allows for the deferral of mobilization with a single tap on a smartphone, a significant improvement from the previous requirement of obtaining a certificate from an educational institution, visiting a territorial recruitment and social support center, submitting an application, and awaiting its consideration before making a decision. With the further integration of interactions with state registers, the volume of data associated with individuals liable for military service will substantially increase. It is plausible

that if the state achieves automatic data accumulation through register exchange, the list of responsibilities for conscripts, persons liable for military service, and reservists regarding the notification of data changes may be streamlined.

Furthermore, certain services, including the acquisition of a military registration document and the booking from mobilization, can be accessed through the Unified State Web Portal for Electronic Services (Diia portal). Nevertheless, to ensure the successful approval of an employee reservation request, a specialist must possess comprehensive information prior to submitting such a request.

In this scenario, to effectively generate a comprehensive list of employees for booking, it is imperative that a specialist obtain a second opinion. This involves reviewing the employee's information and evaluating the objectivity of the decision to include or exclude them from the lists, thereby ensuring two-factor confirmation. At this juncture, the application of artificial intelligence technologies becomes both appropriate and promising.

A productive knowledge model can be employed to facilitate the verification of an employee's military records for their inclusion or exclusion from the reservation list. This model entails the formulation of a set of rules adhering to the generalized structure «If (condition), then (action)». The primary objective of computer inference is to analyze the outcomes of these rules and provide a recommendation on military accounting to a specialist. For instance, it can address inconsistencies in the employee's registration category, necessitating the updating of the military registration document.

Conclusions

Consequently, the implementation of artificial intelligence technologies within the military registration domain, particularly expert systems, is deemed suitable for generating recommendations on military registration. This approach is expected to enhance the existing processes for registering conscripts, individuals liable for military service, and reservists within enterprises, institutions, and organizations. The utilization of software solutions, including intelligent ones, in this domain presents distinct challenges related to employee data management and the imperative to regularly update the knowledge base by adapting it to the evolving requirements of the state and legislative changes.

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