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APPLYING ARTIFICIAL INTELLIGENCE TECHNIQUES TO CREATE TYPICAL WEB APPLICATIONS

Every day, thousands of new web applications are created by developers from all over the world: large and single-page, useful and meaningless, commercial and for their own use. However, no matter how different and original they are, the process of their development is not much different from each other and consists of the same stages, for example: interface design, monotonous writing of components, different types of testing, etc.

Each task of the stage separately may require a small amount of resources to complete, but in the aggregate and in a large-scale project, the required amount of human and, accordingly, material resources increases dramatically, which becomes a problem for managers and customers.

Optimization of resource costs in the modern world is a necessity for any enterprise to stay afloat in a competitive environment. For the development of web and regular applications, there are methodologies for optimizing this process, however, in my opinion, they use outdated tools and are too dependent on the human factor, which significantly affects their efficiency, reducing the already small amount of saved resources.

Now you will not surprise anyone with a voice assistant-assistant or a search on the Internet by photo, modern artificial intelligence systems already know how to draw pictures and can fully replace a person in correspondence and conversation. All this is made possible thanks to modern artificial intelligence and machine learning tools, the limit of development of which has not yet been found.

The use of such tools can help us solve the problem of optimizing the web application development process, but in order to improve the results compared to existing methodologies, these tools need to be integrated at every stage of development, from design to testing.

This can be done using tools such as NLP and GPT, they use artificial intelligence and machine learning methods to analyze text and speech, in order to synthesize new text, including program code.

There is no one-size-fits-all method that allows you to design and develop any web application from scratch on your own. Therefore, to achieve the goal of the work, we will need to use a set of state-of-the-art methods and tools, such as computer vision, natural language processing and a generative transformer based on it in the form of state-of-the-art artificial intelligence systems.

With the help of computer vision, it will be possible to create full-fledged layouts of interfaces, pages, and forms of the future application from hand-drawn diagrams or in primitive graphic editors.

Also, using computer vision, it will be possible to improve the interface and its usability by comparing the layout of our application with reference options. Natural language processing tools will allow us to transform our wishes regarding the appearance and functionality of interface components into a form that is understandable for the artificial intelligence system.

The generative transformer, in turn, will receive our transformed wishes and, using its intellectual capabilities and knowledge gained in the learning process, will synthesize the source code for the components of our applications. The advantages of the selected means are obvious: no other systems can currently replace the selected ones. Their functionality and capabilities are unique, and taken together, they are ideal for solving the research problem.

For a more in-depth acquaintance with the subject area, the process of developing typical web applications was analyzed and the key stages were identified. The structure of typical web applications was considered in great detail. Understanding this process will allow you to more effectively use artificial intelligence tools during development.

In addition, the ability of artificial intelligence, namely computer vision, to create interfaces based on hand-drawn wireframes with a fairly high level of accuracy was demonstrated.

To synthesize the program code of the web application itself and its components, neurolinguistic programming methods and an autoregressive model of the GPT language of the third version were chosen.

The use of these state-of-the-art artificial intelligence tools made it possible to achieve impressive results: to create working web applications without writing a single line of program code, only using human language.

As a result of the study, the module "Using artificial intelligence tools to create typical web applications" was implemented. First of all, the relevance and necessity of using artificial intelligence methods in the development of software in general and typical web applications in particular were considered and evaluated.

And, although the process of software design and development is already sufficiently studied and improved, space has been found for its further optimization. However, this can only be done using the most modern tools of artificial intelligence and machine learning.

During the practical use of the tools, the feasibility and effectiveness of the selected artificial intelligence methods were finally confirmed. They provide a high level of reliability and performance, convenience and flexibility of settings, the ability to edit the appearance of the user interface.

The end result is that typical web applications and their components, created using only human natural language, are a good example of demonstrating the capabilities of artificial intelligence tools.

The technologies in question have a future not only in the form of separate full-fledged systems, but also as an addition to existing software products used for software development, such as graphic editors for creating user interfaces and code editors. This work will contribute to drawing attention to existing artificial intelligence tools and creating new ones in the future.

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APPLICATION OF ARTIFICIAL INTELLIGENCE METHODS FOR ENTERPRISE OPERATIONAL RISK MANAGEMENT

The activity of manufacturing enterprises in Ukraine in modern conditions is characterized by a high level of uncertainty, the influence of a large number of external and internal factors, as well as the degree of risk that grows. In such circumstances, enterprises need to understand approaches and methods for assessing the impact of potential risks on their activities and be able to manage them in order to mitigate them.

The management of the enterprise needs to learn how to timely assess and take into account risk factors when making important management decisions, effective organization of the process of assessment and risk reduction will help to quickly adapt the activities of enterprises to unstable and rapidly changing conditions of the external and internal environment. The use of the latest technologies, such as artificial intelligence, will increase the level of risk management, reduce the error rate, and increase the efficiency of the enterprise. One of the main trends in the work of enterprises is the transition to "smart" production. Smart manufacturing aims to transform the data obtained over the entire life cycle of a product into production analysis in order to have a positive impact on all aspects of production.

All of the above necessitates the study of operational risks in the activities of the enterprise, increases the need to adapt existing methods of risk assessment to the conditions of their practical application at enterprises and the use of artificial intelligence for risk management and optimization.

The object of the study is the process of managing operational risks using artificial intelligence. The subject of the study is the theoretical foundations, methods and practical aspects of the application of artificial intelligence for the management of operational risks in the enterprise. The purpose of the study is to analyze the methods of artificial data intelligence for the management of operational risks of enterprises and to determine methods for optimizing the management of operational risks of the enterprise.

To achieve the goals of the study, the following tasks were performed: analysis of scientific sources on the types and determination of operational risks of the enterprise, management of operational risks of the enterprise; collection and processing of statistical, economic and technical information necessary for