

## THE USAGE OF BIG DATA WITH MACHINE LEARNING AND AI IN THE TRAVEL INDUSTRY

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With the development of industry and technology, travel has become possible at affordable prices. In this regard, the market of tourist services has developed, which helps to automatically select places for travel for customers in connection with their wishes and possibilities. The service itself may include various features and preferences based both on customer assistance and to improve the functionality of the service and sales. All these features are made possible with the collection, processing, and analysis of big volumes of statistical data through AI and Machine Learning (ML) models [1]. Such analysis allows users to identify patterns that are not visible at first glance and provide the necessary results with high accuracy, which is very important for business (see Fig. 1).

Travelers start their trip with planning. The preparatory stage in a simplified form can be divided into the following categories of questions:

time and day of departure, transport and travel time, accommodation, meals, and recreation (excursions, shopping, entertainment). All this is also based on the available budget.

Based on these categories and more, travel services allow customers to design their entire trip down to the smallest detail. «Smart» bots, recommendation systems with forecasts, content analysis, and user experience management [2] are used at every stage of the journey. All of this allows travelers to find answers to any questions and problems that arise during the journey in real-time 24/7.

The tourism service sector, like any modern business, cannot work without data analytics [3] on customer requests, sales, and other factors. In this regard, AI algorithms allow travel companies to optimize sales and prices for services and products, improve their marketing strategy, detect fraud, and more.

The collection, processing, and analysis of big data today is an integral part of the tourism industry. With the rapid development of AI, travel services will soon be able to predict and produce even more complete and faster results, it will be enough just to specify the place, budget, and duration of the trip.

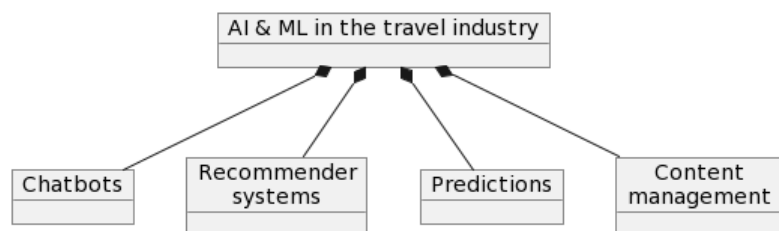


Fig. 1. – AI and ML applications in the travel industry

### References:

1. How Big Data Technologies Can Improve Tourism // URL: <https://blog.bismart.com/en/big-data-technologies-tourism>
2. Benefits of the Use of Machine Learning and AI in the Travel Industry // URL: <https://djangostars.com/blog/benefits-of-the-use-of-machine-learning-and-ai-in-the-travel-industry/>
3. Big Data Analytics in the Tourism and Travel Industry // URL: <https://anywhere.epam.com/business/big-data-in-tourism-and-travel>