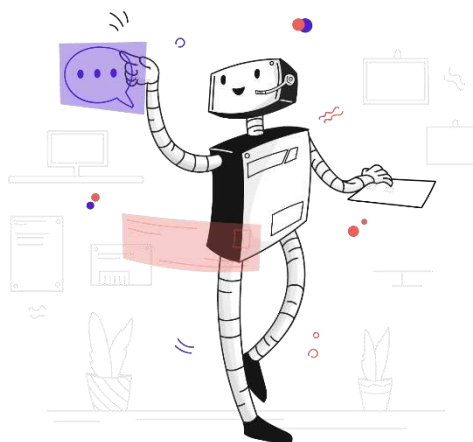


Package

MACHINE LEARNING



DESCRIPTION

The development of digital economy cause companies to make decisions with minimal labor costs and maximum efficiency in order to increase market competitiveness, relying on data available to the business.

That is why our Center offers quick outsourcing testing of your hypotheses for making forecasts using basic machine learning algorithms.



Is it possible to predict the number of sales and what do they depend on?



Which method will correctly predict the possibility of your equipment failure?



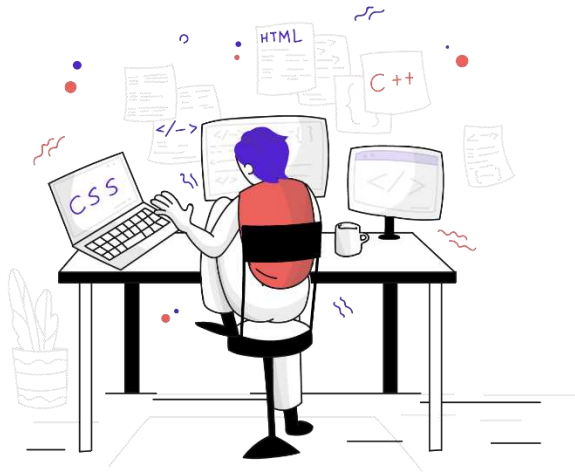
Which algorithm best identifies the user based on the data you have?



Will a new user buy a paid subscription in your service?

Our team answers these (**and not only these**) questions by working with your data using machine learning algorithms.

We provide expert and scientific support for the work of analytical department in your company. Where you have problems with the use and adaptation of machine learning algorithms to the available data - our Center is ready to help with the solution and offer the scientific approach with detailed documentation.



PACKAGE CONTENT

- 1 Initial analysis of available data: analysis of available features, outlier analysis, gap analysis, visualization
- 2 Basic data preprocessing: coding and scaling of features, outliers processing, gaps processing
- 3 Basic work with features: simple procedures for selecting and making features
- 4 Training and testing ML models: testing various machine learning algorithms at preprocessed data (*see the list below*), and then choosing and tuning the model that gives the maximum quality according to the main metric
- 5 Final report in .ipynb and .pdf/.docx formats (*with visualization of analysis*)

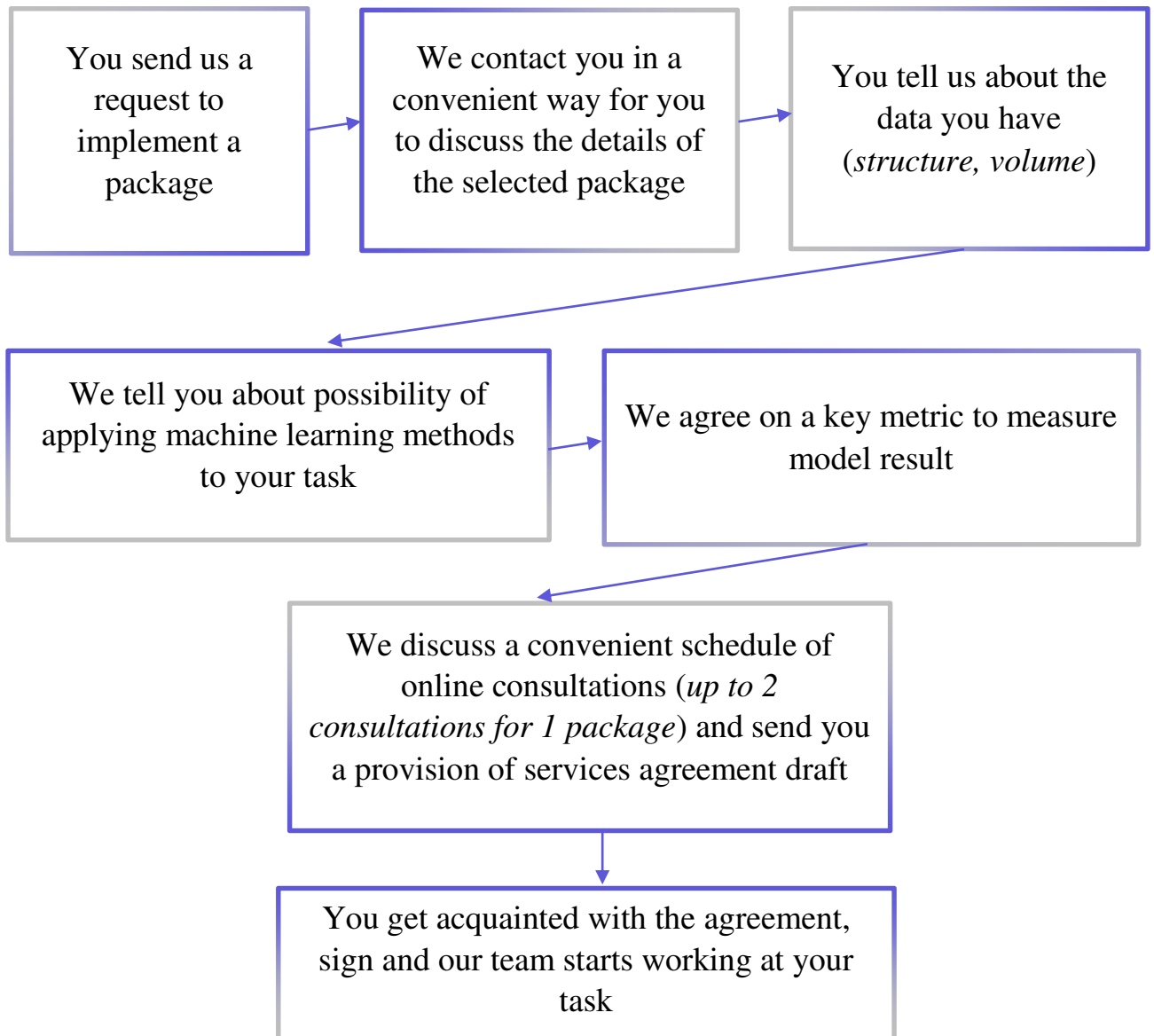
DURATION



up to 14 days



INTERACTION WITH CLIENT





WORKFLOW

+5

Our analyst team work on carrying out all the above package stages within 5 working days

+2

After that, within 2 days, a code review of the work results takes place together with the project manager

+1

Within 1 day, a final report is drawn up with a detailed description of working with data (*preprocessing features, cleansing data, testing models, visualizing analysis, etc.*)

+2

Next, the final models and work results are transferred to the client through the GitHub repository. For 2 days, the project manager interacts with the client (*answers to questions*)

LIST OF MACHINE LEARNING ALGORITHMS

During the building a predictive system, our team will find the most suitable of the classic machine learning algorithms. We will consider the following:

- k-nearest neighbors algorithm
- Linear regression
- Random forest
- Gradient boosting
- k-means clustering

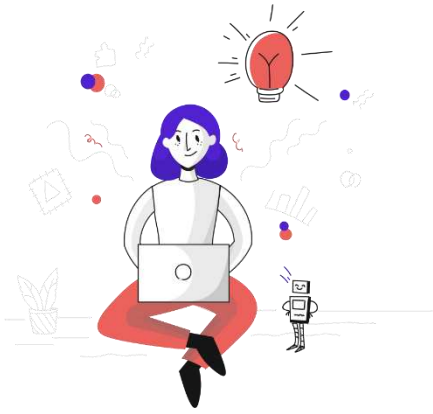
You can also suggest an algorithm for testing

LIST OF METRICS

After building a predictive system, we evaluate the quality of work using various metrics:

- | | |
|---|--|
| <input checked="" type="checkbox"/> Accuracy | <input checked="" type="checkbox"/> R^2 |
| <input checked="" type="checkbox"/> MSE | <input checked="" type="checkbox"/> F1 score |
| <input checked="" type="checkbox"/> Precision | <input checked="" type="checkbox"/> RMSE |
| <input checked="" type="checkbox"/> MAE | <input checked="" type="checkbox"/> AUC-ROC |
| <input checked="" type="checkbox"/> Recall | <input checked="" type="checkbox"/> AUC-PR |

You can also suggest metric for testing



ABOUT SERVICE SUBSCRIPTION

Our Center provides individual sets of services presented in the form of packages. In cases where the client's task or hypothesis requires longer work (*more than 14 days*) - we inform about this at the stage of discussing the available data (*before signing the provision of services agreement*) and propose to extend the selected package up to 28 days.

Also, if after selected package ending, the employees of your company need:

- > more time for formal and expert analysis of the model developed by us
- > test new hypotheses that emerged from the analysis of our final model
- > retrain the final model with additional data

then you can always extend the selected package for another 14 days or conclude a contract for permanent service.

CONFIDE DIFFICULT TASKS TO COMPETENT SPECIALISTS

