

## **ABSTRACT**

This thesis contains 84 pages, 4 tables, 11 drawings, list of used literature from 16 titles.

**GRADIENT BOOSTING, MACHINE LEARNING, METRICS, PRECISION.**

The aim of the diploma is to create a product to solve the problem of customer churn, which is one of the biggest troubles of modern enterprises in a highly competitive market.

The subject of the study is the clients usage activity of services provided by the enterprise.

The object of research is one of the largest Ukrainian marketplaces, the target audience of which are B2B customers.

The product provides businesses with the ability to identify loose customers in advance to provide them with specific content. This approach is cost-effective, since attracting a new customer is much more expensive than maintaining an existing one.

In development, different types of machine learning algorithms are tested. The final version is an ensemble of trees (gradient boosting) - the model gives precision 74% and recall 82%.

The development was conducted in Python.