2021.AI

Prediction of loan repayment

Preventing non-paying customers

In most credit giving institutions, it is essential to know which loan recipient is more creditworthy and who is risky. Credit classification predicts how likely a person is to repay a loan. The solution will highlight factors that classify good credit users and risky ones.

The Challenge

Financial institutions often face the risk of unpaid loans. Either rejecting too many clients or taking on too many unpredictable clients increases the risk or limits the return. Predicting loan repayments is a core driver for risk reduction and should be on every financial institution's agenda. Especially for a consumer loan business.

Facing a 40% default rate on a client base is normal for some fast loan companies. But, imagine if you could predict those that will or will not pay. Without losing revenue, you can lower the risk of defaults in your portfolio.

Data Describing Your Customers

Building a predictive model that highlights a customer's likelihood to repay a loan requires data on the current customer base, the customers' services, and their past payment history. This data includes:

- **Customer profile information**
- **Subscribed services and details**
- **Delayed payment status (yes or no)**

All variables need to be available in the historical data, but they also have to be generated each time the model should compute the customer's payment probability. It is essential to select variables that generate for each customer. The historical data is usually supplied in databases via a connection, an API, or as .csv files (especially for PoC's). Predictions are generated by sending a JSON request to the models API and receiving a prediction list.

Model – Credit Classification

A supervised classification model is used to predict loan repayments. The model is trained on historical data to recognize the label assigned to the training data. The model is deployed using our auto-deployment functionality within our Enterprise AI platform, Grace. After deployment, data is sent via a POST endpoint of an exposed API to the model.

The credit classification model as a Grace Standard model is the fast track to your first AI model implementation without sacrificing future flexibility or extensibility for scaling AI across your organization. We maintain algorithms that are 70% ready-made and fitted to your data.

3 Facts About The Model

1. **Predicting credit default as a standard model is a fast track to AI model implementation.**
2. **The model uses customer data to predict customer default.**
3. **The model enables you to limit your company's exposure to risk.**

Predictions Of Customer Behavior

When buying the Grace credit model, historical predictions and model insights are stored alongside the predictions and visualized in a BI-tool. The Grace Standard Model for credit classification also delivers the reason for the given prediction, which can research why a client is not repaying a loan. In this case, 2021.AI can help set up the BI dashboards to give customer service an updated overview (e.g., in PowerBi).

Our Solution

2021.AI offers Grace Standard Models, including credit classification, to predict loan repayments using a supervised algorithm. The mathematical model is trained on a data set, describing the customers and their bought services, together with a label (supervised) that classifies the case as a credit default or not.

The model stores the customer profile associated with the event of default, and the descriptive variables most likely to classify the cases. While predicting the probability of the default, the model also produces insights on each prediction. The model is no longer a black box, but instead, knows which variables drive the model prediction and the main reason for the credit default. We store these insights alongside the predictions to be re-used and displayed in a BI dashboard for further analysis.

The Business Outcome

Using the Grace Standard Model for loan repayment prediction, the customer gets an overview of the likelihood of customer defaults. The company can then direct retention efforts to customers with a high risk, to optimize the portfolio. Furthermore, the company gets insights into what drives credit defaults, and with this information, can adapt to improve customer experience and lower the risk exposure.

Interested in taking AI into production? BOOK A DEMO DOWNLOAD OUR BROCHURE

2021.AI Ryesgade 3F, Fl. 2, 2200, Copenhagen - Denmark | +45 93 91 20 21 | sales@2021.ai | www.2021.ai