

# Customer Support Ticket Sorting

Determining support ticket importance

Many companies still sort tickets manually, using a lot of time on ticket distribution instead of resolving customer issues. With automated ticket sorting, companies decrease response time and increase customer experience, while freeing resources for customer satisfaction.

## The Challenge

Manual ticket routing and reassigning is a slow, inefficient, and error-prone process. Never the less, many companies still sort tickets manually, spending time on ticket distribution instead of resolving customer issues. NLP automates this process, saving companies time at their support desk and freeing resources to resolve customer issues. Clients of 2021.AI report that one model can free up time comparable to 2-3 full-time employees.

## Data - Your Tickets And Labels

A model that can automatically route tickets to a specific desk or department requires historic service requests from your organization, as well as the departments that usually handle them. This data includes:

- Tickets in textual form (often more than 100k - depending on the number of target groups)
- Labels of whom the messages should be directed to

The text needs to be supplied together with the label of the group it belongs to (the label that will

be predicted from the algorithm, e.g., specific desk or risk group). The historical data is usually supplied in databases via a connection, an API, or as .csv files. The predictions are generated by sending a JSON request to the model's API and receiving a list containing the prediction.

## Model – Ticket Sorting

For the prediction, we use Natural Language Processing (NLP) followed by a supervised classification model. The model is trained on the historical messages, to recognize the label assigned to them. The model is deployed using the auto-deployment functionality in our enterprise AI platform, Grace. After the deployment, data is sent via a POST-end-point of an exposed API to the model.

The ticket sorting model is available as a Grace Standard Model is a 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 clients' messages and target groups.

## 3 Facts About The Model

1

**Ticket sorting as a standard model is a fast track to AI model implementation.**

2

**The model uses historic data to sort filed tickets into meaningful groups.**

3

**The model enables you to reduce the time and effort spent at the service desk.**

### Predictions Of Ticket Content

When buying the Grace ticket sorting model, historical predictions and model insights are stored and visualized in a BI-tool. The Grace Standard Model for ticket sorting also delivers model insights so that the reason for a given prediction can be used to research why a specific person or department received a ticket. In this case, 2021.AI can help set up the BI dashboards to give customer service an updated overview (e.g., in Power BI).

### Our Solution

2021.AI offers ticket sorting and classifying tickets into meaningful groups using a supervised algorithm and NLP. The mathematical model is trained to process text from messages and recognize a historically given structure (supervised).

The model stores the messages associated with a specific group, and which content of the message

is most likely to classify it. While assigning a message to a group, the model also produces insights for each prediction. The algorithm, but instead, provides the textual content that drives the model prediction, and the main reason for the message to be for a specific group. We store these insights alongside the projections to be re-used and displayed in a BI dashboard for further analysis. All of this is anonymized, without any link to the detailed context.

### The Business Outcome

Using the Grace Standard Model for ticket sorting, the company gets an overview of the group that the tickets should be assigned to and can route the tickets to the specific department, desk, or group with less human interaction. Customers experience faster response times and get a better experience. Furthermore, the company accesses the variables that make the model route the tickets.

**Interested in taking AI into production?**

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