

Message routing

Managing information overload

Anyone working in an organization and especially those within support and service functions, are familiar with the mass number of emails and information received daily. It is often a challenging and time-consuming process to forward the right information to the right person. Message routing can solve this challenge.

The Challenge

Employees, and especially the customer service desk or other support functions, read through thousands of emails, spending time forwarding emails and other messages to the right person. With Natural Language Processing (NLP), this can be automated. What robots and rule based systems are not able to handle, AI can. The message routing model detect content and is trained to recognize specific content, that classifies a message as most relevant for one desk, technical, risky, or other types of groups.

With an automatic message routing, companies save time at their support desks, freeing resources for higher quality work. Clients of 2021.AI report that one model, sorting emails based on technicality, can free up time comparable to 2-3 full time employees.

Data - Your Messages And Labels

When building a model that automatically routes messages to a specific desk or department, you need historic emails or service requests from your organization and the departments that usually handle them. This data includes:

- Messages in textual form (often more than 100k - depending on the number of target groups)

- Label to whom the message should be directed

The text needs to be supplied together with the label of the group it belongs to (the label 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 (especially for PoC's). The predictions are generated by sending a JSON request to the models API and receiving a prediction list.

Model – Message Routing

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 our auto-deployment functionality within our enterprise AI platform, Grace. After the deployment, data are sent via a POST-end-point of an exposed API to the model.

The message routing model is available as a Grace Standard Model and is a fast track to your first AI model implementation without sacrificing future flexibility or extensibility for scaling AI models across your organization. We maintain 70% ready-made algorithms that are fitted to your clients' messages and target groups.

3 Facts About The Model

1

Message routing as a standard model is a fast track to AI model implementation.

2

The model uses historic data to sort messages into meaningful groups.

3

The model enables you to reduce the time and effort put at the service desk or at secretary level.

Predictions Of Message Content

By using the Grace Standard Model for message routing, the customer gets an overview of the group that the message should be assigned to. The company can route the message to the specific department, desk, or group with less human interaction. Furthermore, the company gets insights into what makes the model route the messages, which can be used to control content and relevancy.

Our Solution

2021.AI offer Grace Standard Models including message routing to classify messages into meaningful groups, by using a supervised algorithm and NLP. This means that a mathematical model is trained to process text from the messages to recognize a historically given structure (supervised).

The model stores which message is associated with a specific group, and which content of the message is most likely to classify the messages.

While assigning a message to a group, the model also produces insights for each prediction. This means, that the model is no longer a black box, but instead we know the textual content that drives the model prediction, and the main reason for the message to be relevant for a specific group. In our standard model, we store these insights alongside the predictions, so it can be re-used and displayed in a BI dashboard for further analysis. All happening anonymized, without any link to the detailed context. For this we connect the BI-tool of choice (e.g. PowerBi) to the model API.

The Business Outcome

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