Email based incident tracking

Solution Pitching

Challenge 2 - Automation

Breakdown

- Classify the mails as SR and Incident via automated system using keywords
- Track and Manage
- Categorize the inbound and outbound mails according to their labels
- Mark it as conversation (proof) by taking thread count and consider the reply that was send by the customer or a service provider
- Calculate the time - Taking the time between SR or Incident and Response and resolution

Solution

For the First Challenge we created a ML Model Solution which categorize the Mails into two category.

- SR
- Incident

The idea to classifies the mails, is using the specific text content of e-mail and creating the dataset to train the model.

Model

- The model built using linear classifier.
- Here we used Scikit- learn Data Analysis tool for the classification
- The Additional libraries used,
    - Numpy
    - Pandas
    - Optimizer - Stochastic Gradient Descent

Linear
Deep Learning

```
(tf) rupeekshan@Linux:~/Desktop/auto_ET$ python3 test.py
Fitting 5 folds for each of 288 candidates, totalling 1440 fits
Please enter the new content here: Could you please check and let us know?
Prediction: SR
(tf) rupeekshan@Linux:~/Desktop/auto_ET$ python3 test.py
Fitting 5 folds for each of 288 candidates, totalling 1440 fits
Please enter the new content here: Dissapointing auth service
Prediction: Incident
(tf) rupeekshan@Linux:~/Desktop/auto_ET$
```

```python
import numpy as np
import pandas as pd

from sklearn.feature_extraction.text import CountVectorizer, TfidfTransformer
from sklearn.linear_model import SGDClassifier
from sklearn.model_selection import GridSearchCV
from sklearn.pipeline import Pipeline
```

```python
grid_search = GridSearchCV(pipeline, parameters, n_jobs=-1, verbose=1, refit=True)
grid_search.fit(np.array(em['Subject']), np.array(em['Category']))
best_parameters = grid_search.best_estimator_.get_params()

input_test = input("Please enter the new content here: ")

if input_test :
    test_set = [input_test]
    print("Prediction:", *grid_search.best_estimator_.predict(np.array(test_set)))
```

AutoET

Search mail

Compose

Inbox

Starred

SR

Incident

Conversation

Primary Social Promotions

Google	Security alert for mahas@virusa.com
Google	Security alert for rupeekshan@virusa.com
Google	Security alert for inshaf@virusa.com
Google	Security alert for sobiya@virusa.com
Google	Security alert for ayomi@virusa.com

AutoET

Search mail

Compose

Inbox

Starred

SR

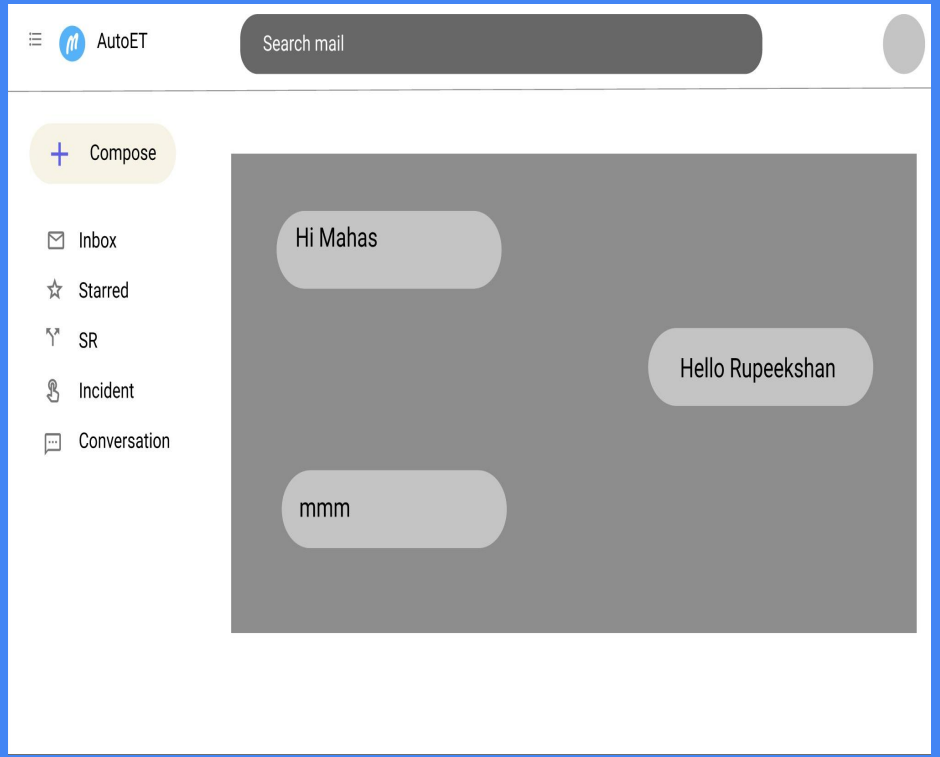
Incident

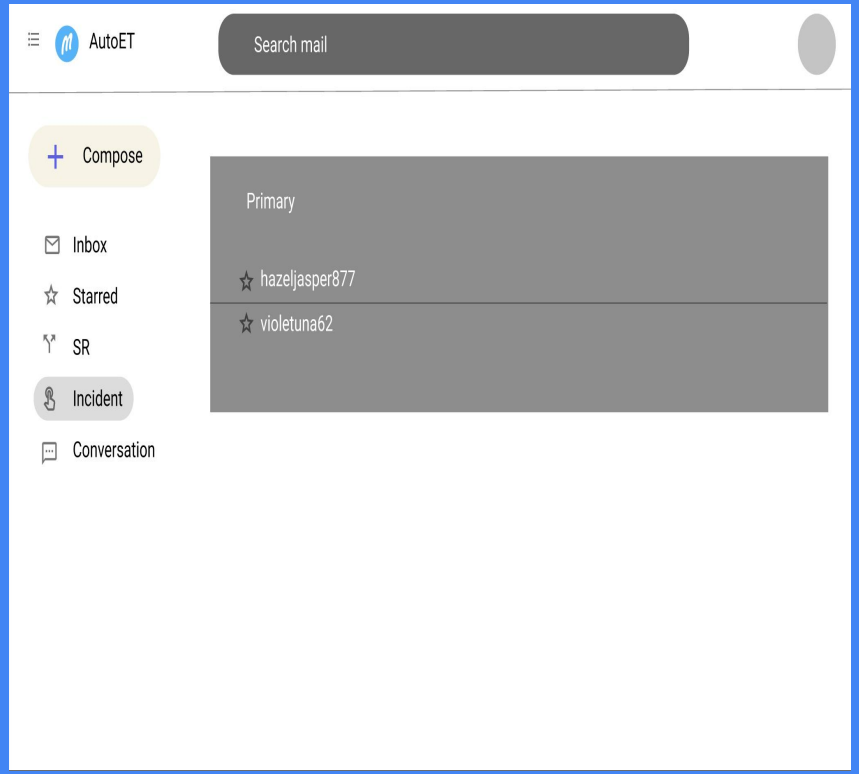
Conversation

Primary

senkuttuvanchera

henrynora70


AutoET
Search mail
Compose
Inbox
Starred
SR
Incident
Conversation
Hi Mahas
Hello Rupeekshan
mmm


AutoET
Search mail
Compose
Inbox
Starred
SR
Incident
Conversation
Primary
hazeljasper877
violetuna62