Auto-generated Email Responses:

Boost your email efficiency

Mailytica
Email is dead (again).
Email is alive (again).
Worldwide Daily Email Traffic: 269 Billion in 2017
Emails handled by an office worker: 121 per day
Average hours spend for emails:

3.3 per working day
72% of consumers prefer email as their source of business communication
Speed matters:
Responses are expected in near-realtime
Context & Information matters: Response should be aligned to request
• But who likes to be engaged in emails for half their working time?
• Aren’t there more important things to do?
• How often is the same email written again and again?
Imagine...

...if topics of your emails are automatically detected?
Imagine...

...if email responses are automatically drafted based on the detected topics?
Imagine...

...if email responses automatically contain high degree of context and information?
What is Mailytica?

- **Email Classification**: Classifies incoming emails according to customer-specific topics, urgency, sentiments.
- **Email Smart Responses**: Generates Email Smart Responses based on customer-specific language.
- **Email Routing**: Assigns incoming emails to specific email boxes according to classified topics.
- **Email Text Analytics**: Recognizes dates, locations, measurements and customer-specific facts or entities.

Mailytica
How does Mailytica work?

1. Natural Language Processing
   - Tokenization
   - Lemmatization
   - Term weight discrimination
   - Entity annotation
   - Fact annotation
   - Language detection

2. Machine Learning
   - Topic models for topic detection
   - Classification models for email classification

3. Natural Language Generation
   - Language Models trained on customer-specific email history for Email Smart Response
How does Mailytica work?

Production Phase
All incoming emails are constantly screened by an algorithm. This algorithm, called “Email Classifier”, does make an evaluation on basis of each single topic. Unambiguity, precision and a confidence – factor decide upon the allocation. Therefore, each email passes a Machine Learning pipeline with four steps.

Preparation Phase
All existing emails are classified by the “Topic Detection Algorithm” to any desired number of business transactions (topics).
Maillytica Email Processing Pipeline

INCOMING EMAIL → Email Connector → Email Processing → Email Classification → Email Smart Response → OUTGOING EMAIL
Mailytica Email Processing Pipeline

INCOMING EMAIL → Email Connector → Email Processing → Email Classification → Email Smart Response → OUTGOING EMAIL

Email Connector

- Integration to email box
- SMTP, POP3 or specific APIs (e.g. Gmail, Outlook)
- User - Interface
Mailytica Email Processing Pipeline

INCOMING EMAIL → Email Connector → Email Processing → Email Classification → Email Smart Response → OUTGOING EMAIL

Email Processing:
- Email Cleansing
- Annotation of paragraphs, sentences and tokens
- Lemmatization
- Term Discrimination
- Stop Word Filter
- Email Text Analytics

Mailytica
Mailytica Email Processing Pipeline

INCOMING EMAIL → Email Connector → Email Processing → Email Classification → Email Smart Response → OUTGOING EMAIL

Email Classification
- Classification and allocation of best matching topic
- Precision adjustable for each topic individually
- Utilization of confidence and unambiguity to eliminate false positives
Mailytica Email Processing Pipeline

INCOMING EMAIL → Email Connector → Email Processing → Email Analytics → Email Smart Response → OUTGOING EMAIL

Email Smart Response
- Best fitting response proposed by Natural Language Generation
- Email draft with Smart Response is pushed to email box
- User can adjust, overwrite or delete proposed Smart Response
Request for delivery time

Timo Streich

to me ()

Hi,

I urgently need 300 business cards. The order number last time was PO21349. What is your fastest delivery time?

Kind regards,
Timo Streich
Request for delivery time

Timo Streich

to me

Hi,

I urgently need 300 business cards. The order number last time was PO21349. What is your fastest delivery time?

Kind regards,
Timo Streich
Hi,

I urgently need 300 business cards. The order number last time was PO21349. What is your fastest delivery time?

Kind regards,
Timo Streich

{ classification: „delivery_time_request“, priority: „urgent“, from: „Timo Streich“, article: „business card“, reference_no: „PO21349“, quantity: 300 }
Dear Timo,

thank you for your request of 500 business cards. You mentioned a fast delivery. We can ship them within one week. Please let me know if this is ok for you.

Kind regards,

Tina
Email Classification & Smart-Response

- **Automated training**
  No manual labeling required

- **Self-learning**
  Algorithm is improving with each new case

- **Easy integration**
  Easy Integration with other systems

- **Customer specific models**
  Topics and language models are unique for each customer

- **Improved efficiency**
  Email drafts are composed in seconds

- **Highly scalable**
  Peaks and growing number of emails can be easily handled
How does the algorithm improve?

1. **New email with automatic Smart Response**
   - Each new email with Smart Response is also used for training purposes. It does refine the corresponding topic.

2. **Emails without automatic Smart Response**
   - If no Smart Response can be generated, an answer has to be made manually.
   - The manual answer will be trained to the classifier of the topic, meaning that it will improve in future.

3. **Wrong Smart Response**
   - False Positives are analyzed by the classifier as well. This does increase the precision at future decisions.
Mailytica

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