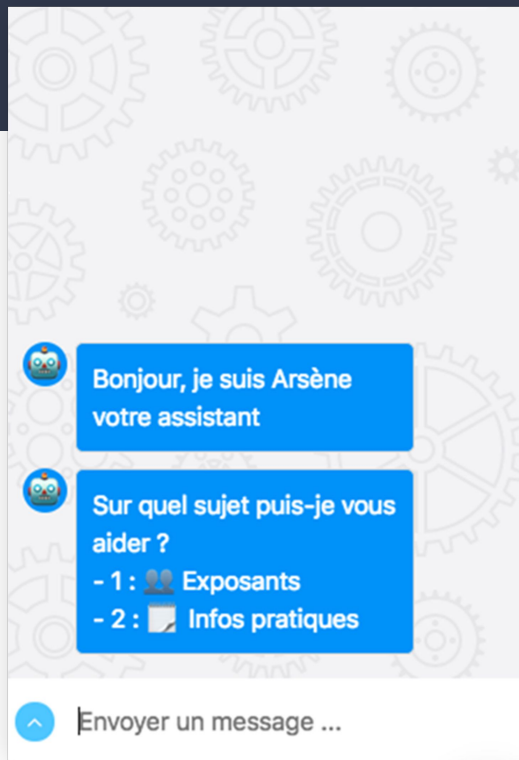


VT

Chatbot

Qu'est-ce que c'est ?



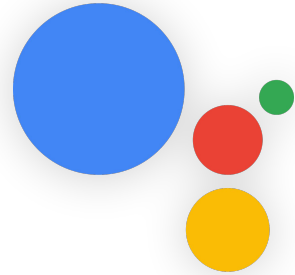
Chatbot



Siri



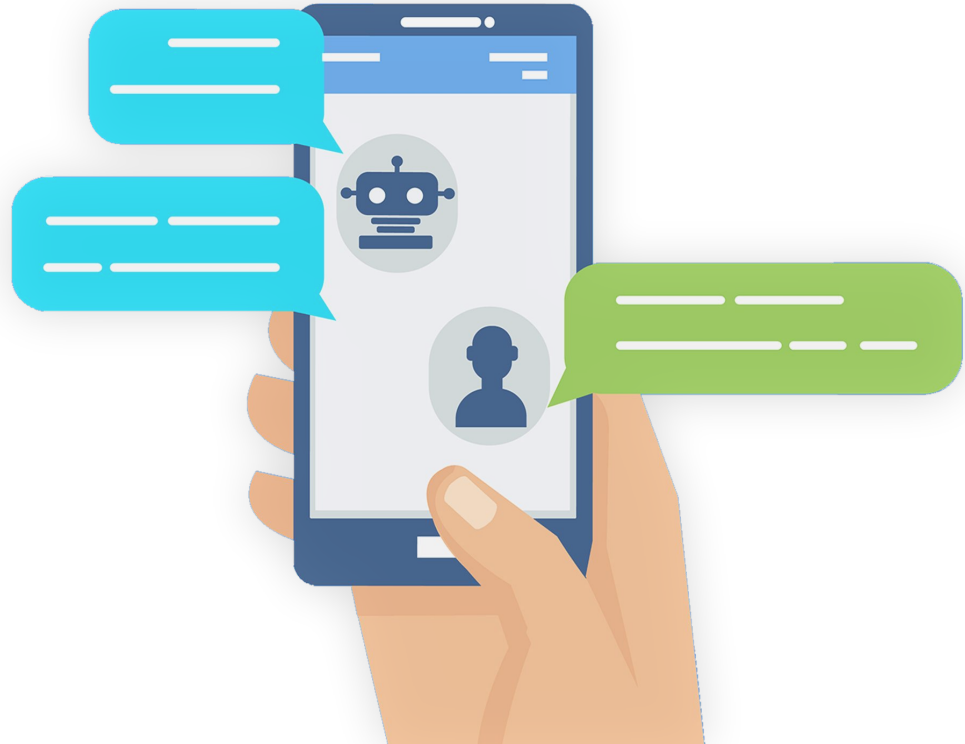
Alexa



Google Assistant

Chatbot

- Robot
- Dialoguer
 - Arborescence
 - Interpretation



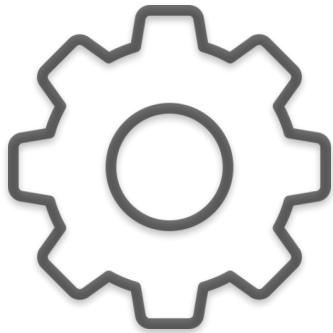
RASA en quelques mots

- **Framework** chatbot **Open-source**
- Actuellement en version 1.X (depuis le 21 Mai 2019)
- Conversation textuelle
- RASA peut :
 - Comprendre des messages (NLP/NLU)
 - Tenir une conversation (Stories)
 - Connection directe aux services de messagerie (Facebook, Twitter...)

RASA Stack = RASA NLU + RASA Core

RASA NLU

Gère l'extraction des intentions et des entités.



RASA Core

Gère les stories et les réponses du bot.



RASA NLU

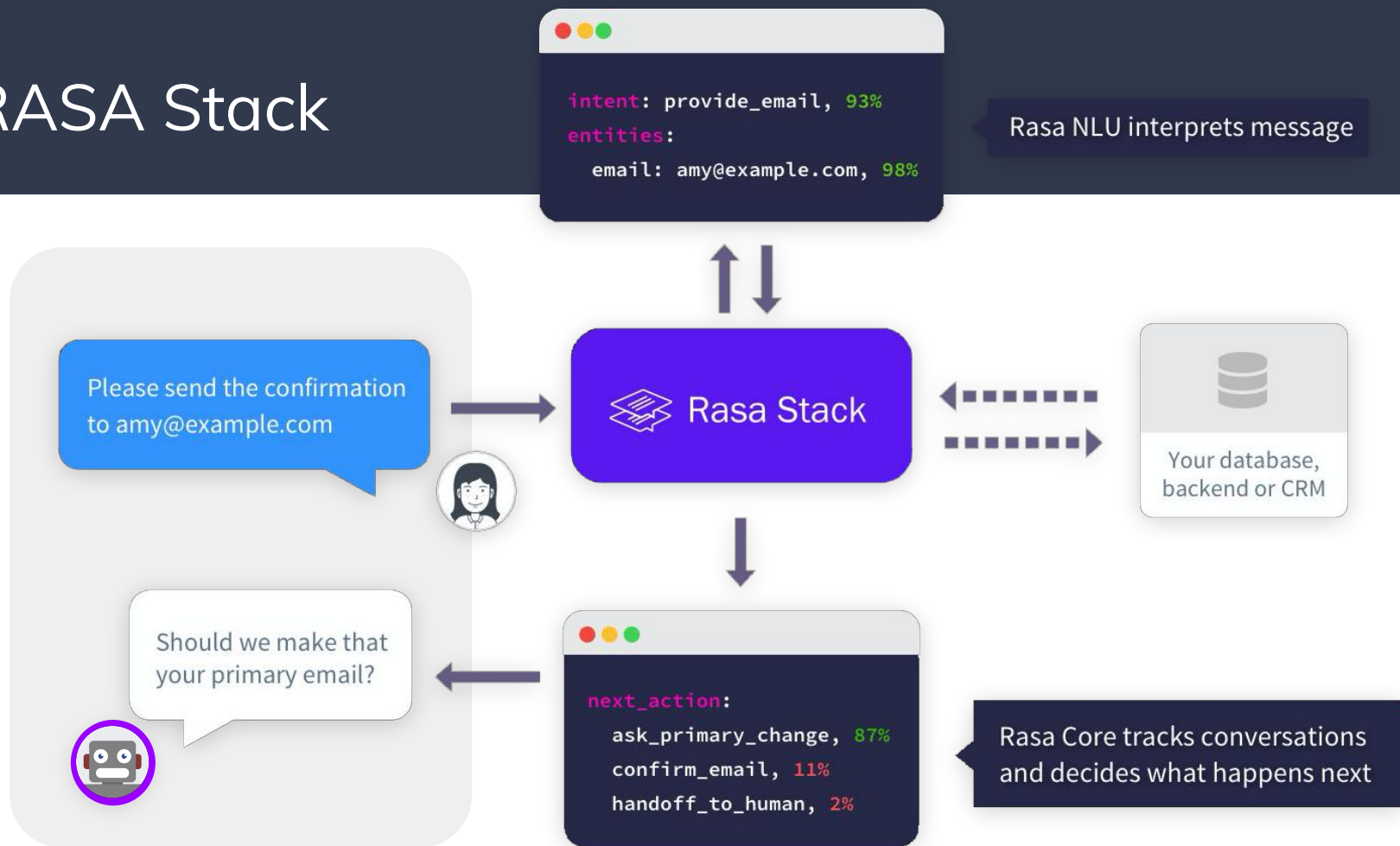
entité : conseillé

“Je veux prendre rendez-vous avec mon banquier pour lundi.”

intention : creation_rendez-vous

entité : date

RASA Stack



RASA : training

```
## intent:find_doctor
- Je dois voir un docteur <!-- pas d'entité -->
- Je dois voir un [médecin généraliste](doctor_type) <!-- entité "doctor_type" à la valeur
"médecin généraliste" -->
- I need to see a [médecin généraliste](doctor_type) à [Grenoble](zipcode)
- ...
```

intent:ask_faq_tutorials

- are there some tutorials i could look at
- do you have tutorials
- i need a tutorial on how to use rasa
- rasa tutorial
- can you show me a tutorial
- i would like to follow a tutorial
- do you have a tutorial i can follow
- i am looking for a tutorial
- i want a tutorial on rasa
- i need a rasa tutorial
- please show me a tutorial

intent:ask_faq_tutorialcore

- are there some core tutorials i could look at
- do you have tutorials about core
- i need a tutorial on how to use rasa core
- rasa core tutorial
- core tutorial
- can you show me a core tutorial
- i would like to follow a core tutorial
- do you have a core tutorial i can follow
- i am looking for a core tutorial
- i want a tutorial on rasa core
- i want a tutorial on core
- i need a rasa core tutorial
- i need a core tutorial
- please show me a core tutorial

intent:ask_faq_tutorialnlu

- are there some nlu tutorials i could look at
- do you have tutorials about nlu
- i need a tutorial on how to use rasa nlu
- rasa nlu tutorial
- nlu tutorial
- can you show me a nlu tutorial
- i would like to follow a nlu tutorial
- do you have a nlu tutorial i can follow
- i am looking for a nlu tutorial
- i want a tutorial on rasa nlu
- i want a tutorial on nlu
- i need a rasa nlu tutorial
- i need a nlu tutorial
- please show me a nlu tutorial

intent:ask_faq_differencetutorialnlu

- What makes `[core](product)` and `[nlu](product)` different?
- what is the main difference between `[core](product)` and `[nlu](product)`?
- what is the primary difference between `[core](product)` and `[nlu](product)`?
- what would you say the difference is between `[core](product)` and `[nlu](product)`?
- what differences are there between `[core](product)` and `[nlu](product)`?
- what differences exist between `[core](product)` and `[nlu](product)`?
- what is different about `[core](product)` compared to `[nlu](product)`?
- what makes `[core](product)` different from `[nlu](product)`?
- what makes `[core](product)` and `[nlu](product)` unique from each other?
- what are the primary areas of difference between `[core](product)` and `[nlu](product)`?
- Do you know the difference between `[core](product)` and `[nlu](product)`?
- What is the Similarities between `[core](product)` and `[nlu](product)`?
- How does `[core](product)` differ to `[nlu](product)`?
- What does `[core](product)` offer that `[nlu](product)` does not?
- Is `[nlu](product)` different to `[core](product)` and, if so, how?
- How does `[nlu](product)` contrast to `[core](product)`?
- What sets `[nlu](product)` apart from `[core](product)`?
- How does `[core](product)` compare to `[nlu](product)`?
- What makes `[core](product)` distinct to `[nlu](product)`?
- What does `[core](product)` and `[nlu](product)` mean?
- What makes `[core](product)` different from `[nlu](product)`?
- What are some ways that `[nlu](product)` is different from `[core](product)`?
- List the dissimilar qualities of `[core](product)` and `[nlu](product)`
- How do `[core](product)` and `[nlu](product)` differ?
- What makes `[core](product)` and `[nlu](product)` incompatible?
- How do `[core](product)` and `[nlu](product)` conflict?
- What facts diverge `[core](product)` from `[nlu](product)`?
- In what ways are `[core](product)` and `[nlu](product)` unlike?
- what is the difference between `[core](product)` and `[nlu](product)`
- difference between rasa `[core](product)` and rasa `[nlu](product)`
- rasa `[core](product)` vs rasa `[nlu](product)`
- what's the difference between `[core](product)` and `[nlu](product)`?

intent:ask_faq_differencerasarasax

- whats the diff between `[rasa](product)` and `[rasa x](product)`
- what's the difference between `[rasa](product)` and `[rasa x](product:x)`
- How is `[Rasa X](product:x)` different from `[Rasa](product:rasa)`?
- Are `[Rasa](product)` and `[Rasa X](product:x)` the same thing?
- What's new in `[Rasa X](product:x)` compared to `[Rasa](product:rasa)`?
- If I use `[Rasa](product:rasa)`, do I also need `[Rasa X](product:x)`?
- i am using `rasa` nlu, why would i need `[rasa x](product:x)`?
- please compare `[rasa](product)` and `[rasa x](product:x)`
- tell me the difference between `[rasa](product)` and `[x](product)`
- tell me the difference between `[rasa](product)` and `[rasa x](product:x)`
- show me comparison between `[rasa x](product:x)` and `[rasa]`
- how does `[rasa x](product:x)` stack up against `[rasa](product)`
- when should i use `[rasa](product)` and when should i use `[rasa x](product:x)`
- Do I need both `[Rasa](product:rasa)` and `[Rasa X](product:x)`?
- Can i use `[rasa](product)` without `[rasa x](product:x)`?
- Can I use `[Rasa X](product:x)` without using `[Rasa](product:rasa)`?

intent:ask_faq_languages

- does Rasa support other languages like spanish?
- what language does rasa support?
- which language do you support?
- which languages supports rasa
- can I use rasa also for another laguage?
- `[german](language)`?
- languages supported
- what about languages supported in rasa?
- can rasa speak `[portuguese](language)`?
- How can I change the language
- language
- which languages do you support
- Hello, rasa supports `[spanish](language)`?
- What language you support?
- What language u support?
- your NLU understand `[spanish](language)`?
- which languages are supported?
- is it available in `[Spanish](language)`?
- How many languages you can support?
- Can I use Rasa with Thai language
- What languages can you use?
- how many natural language that rasa supported?
- what language supported by rasa?
- what language supported by rasa ?
- need to use `[portuguese](language)`
- which language can I use with rasa?
- my bot can be in `[italian](language)`?
- chatbot language ?
- I want Vietnamese language processing
- I want to add Romanian language support
- languages
- support for serbian language
- Does rasa support different languages

intent:ask_faq_opensource

- Is Rasa open source
- is rasa considered open source software?
- is rasa open source?
- is the software rasa open source?
- is rasa an open source software?
- would you consider rasa open source software?
- could I call rasa open source software?
- would rasa fall into the category of open source softwa
- would rasa be open source software?

RASA : domain

intents:

- greet
- goodbye
- inform

actions:

- utter_demander_aide
- utter_demander_cuisine
- utter_demander_nbpeople
- action_ack_dosearch

templates:

utter_demander_aide:

- **text:** "Comment puis-je vous aider ?"

utter_demander_cuisine:

- **text:** "Quel type de cuisine recherchez-vous ?"

utter_demander_nbpeople:

- **text:** "Pour combien de personnes ?"

RASA : stories

```
## saluer + lieu/prix + cuisine + nb personne <!-- nom de la story - juste pour le debugging -->
* saluer
  - utter_demander_aide
* inform{"lieu": "rome", "prix": "faible"} <!-- message de l'utilisateur, au format intention{entité} -->
  - utter_demander_cuisine
* inform{"cuisine": "espagnole"}
  - utter_demander_nbpeople <!-- action que le bot doit exécuter -->
* inform{"personne": "six"}
  - action_ack_dosearch
```

hi, who are you ?



ask_whoisit

action_chitchat



I'm Sara, the Rasa bot! At the same time I'm also the Rasa mascot 🐼

action_listen

how can you help me ?



ask_whatspossible

action_chitchat



You can ask me about:

- how to get started with Rasa
- Rasa and Rasa X
- subscribing to our newsletter
- booking a sales call

▼ Story till now

New Story

* ask_whoisit

- action_chitchat

* ask_whatspossible

- action_chitchat



Clear

Save

RASA : RECAP

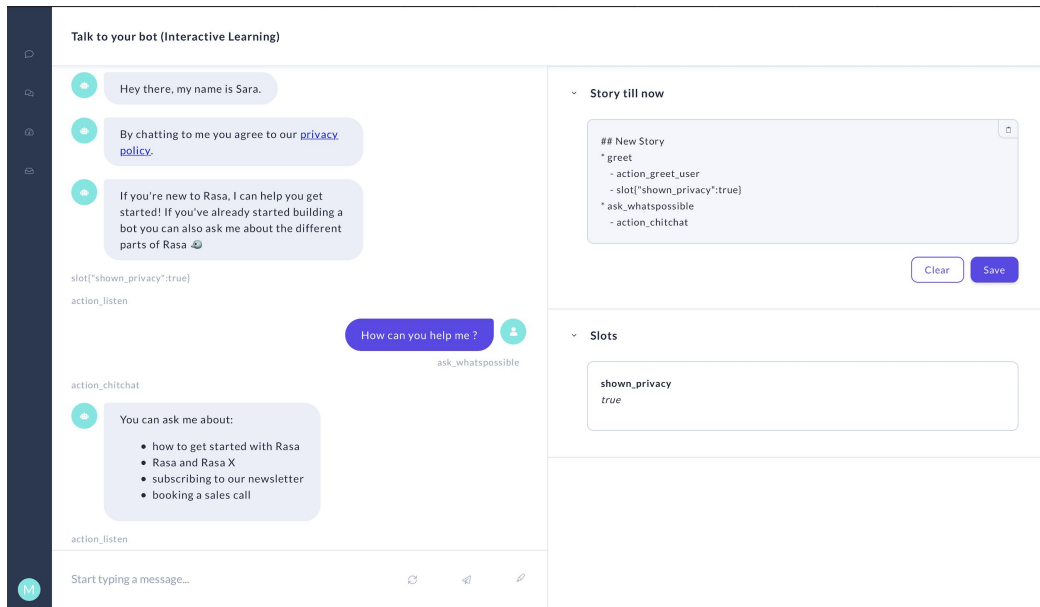
```
~/Documents/Polytech/RICMS/59/VT/rasa-demo master ? rasa train
2019-12-02 02:54:25 INFO rasa.model - Data (domain) for Core model section changed.
2019-12-02 02:54:25 INFO rasa.model - Data (messages) for NLU model section changed.
2019-12-02 02:54:25 INFO rasa.model - Data (nlg) for NLG templates section changed.
Training Core model...
2019-12-02 02:54:31 INFO absl - Entry Point [tensorflow.tensorflow.envs.tic_tac_toe_env:TicTacToeEnv] registered with id [T2TEnv-TicTacToeEnv-v0]
Processed Story Blocks: 100% | 14/14 [00:00<00:00, 1289.25it/s, # trackers=1]
Processed Story Blocks: 100% | 14/14 [00:00<00:00, 116.89it/s, # trackers=13]
Processed Story Blocks: 100% | 14/14 [00:00<00:00, 31.08it/s, # trackers=46]
Processed Story Blocks: 100% | 14/14 [00:00<00:00, 22.16it/s, # trackers=47]
Processed trackers: 100% | 513/513 [00:00<00:00, 1036.47it/s, # actions=1552]
Epochs: 100% | 20/20 [00:12<00:00, 1.55it/s, loss=0.780, acc=0.975]
2019-12-02 02:54:48 INFO rasa.utils.train_utils - Finished training embedding policy, train loss=0.780, train accuracy=0.975
Processed trackers: 100% | 13/13 [00:00<00:00, 2666.70it/s, # actions=36]
Processed actions: 36it [00:00, 10565.74it/s, # examples=34]
Processed trackers: 100% | 13/13 [00:00<00:00, 3346.18it/s, # actions=32]
2019-12-02 02:54:50 INFO rasa.core.agent - Persisted model to '/var/folders/63/nyg_rylj1975k3dc569xytc0000gn/T/tmpcgyw0f4t/core'
Core model training completed.
Training NLU model...
2019-12-02 02:54:50 INFO rasa.nlu.training_data.training_data - Training data stats:
- intent examples: 2727 (63 distinct intents)
- Found intents: 'ask_faq_tutorials', 'nicetomeeyou', 'how_to_get_started', 'ask_faq_rasax', 'ask_faq_differencecorenlu', 'handleinsult', 'ask_whatismyname', 'ask_faq_ee', 'ask_faq_opensource', 'ask_faq_what_is_forum', 'switch', 'rasa_cost', 'greet', 'ask_faq_voice', 'ask_isbot', 'nlu_info', 'enseignant', 'ask_whoami', 'next_step', 'ask_howdoin', 'ask_howold', 'ask_faq_tutorialnlu', 'ask_faq_languages', 'deny', 'ask_languagesbot', 'ask_faq_tutorialcore', 'pipeline_recommendation', 'signup_newsletter', 'ask_whatpossible', 'ask_when_next_event', 'ask_faq_channels', 'ask_howbuilt', 'react_negative', 'ask_whoisit', 'ask_why_contribute', 'ask_how_contribute', 'ask_faq_community_size', 'technical_question', 'ask_which_events', 'explain', 'human_handoff', 'bye', 'affirm', 'enter_data', 'install_rasa', 'contact_sales', 'ask_faq_slots', 'telljoke', 'ask_weather', 'ask_faq_python_version', 'ask_builder', 'ask_question_in_forum', 'ask_restaurant', 'out_of_scope', 'thank', 'ask_wherefrom', 'ask_time', 'react_positive', 'ask_whatisrasa', 'source_code', 'ask_faq_differencecasarax', 'canthelp', 'nlu_generation_tool_recommendation'
- Number of response examples: 0 (0 distinct response)
- entity examples: 609 (12 distinct entities)
- found entities: 'current_api', 'company', 'spe', 'number', 'nlu_part', 'entity', 'rasa', 'job_function', 'location', 'product', 'language', 'name'

/usr/local/lib/python3.7/site-packages/rasa/nlu/training_data/training_data.py:341: UserWarning: Entity 'number' has only 1 training examples! minimum is 2, training may fail.
f"Entity '{entity_type}' has only {count} training examples! "
/usr/local/lib/python3.7/site-packages/rasa/nlu/training_data/training_data.py:341: UserWarning: Entity 'rasa' has only 1 training examples! minimum is 2, training may fail.
f"Entity '{entity_type}' has only {count} training examples! "
2019-12-02 02:54:50 INFO rasa.nlu.model - Starting to train component WhitespaceTokenizer
2019-12-02 02:54:51 INFO rasa.nlu.model - Finished training component.
2019-12-02 02:54:51 INFO rasa.nlu.model - Starting to train component CRFEntityExtractor
2019-12-02 02:54:53 INFO rasa.nlu.model - Finished training component.
2019-12-02 02:54:53 INFO rasa.nlu.model - Starting to train component CountVectorsFeaturizer
/usr/local/lib/python3.7/site-packages/rasa/nlu/featurizers/count_vectors_featurizer.py:311: UserWarning: OOV_token='oov' was given, but it is not present in the training data.
All unseen words will be ignored during prediction.
f"OOV_token='{self.OOV_token}' was given, but it is not present "
2019-12-02 02:54:53 INFO rasa.nlu.model - Finished training component.
```

Rasa X

Interface graphique facilitant l'entraînement des chatbots et la collecte de données.

- Visualisation des conversations (filtrage, annotation, correction).
- Gestion des versions des modèles
- Déploiement à l'aide de conteneur Docker
- Partage du chatbot avec des testeurs pour recevoir des feedbacks et obtenir des données d'entraînement.



Merci pour votre attention