CHATBOT with RASA

Intent Classification with Rasa NLU and SpaCy

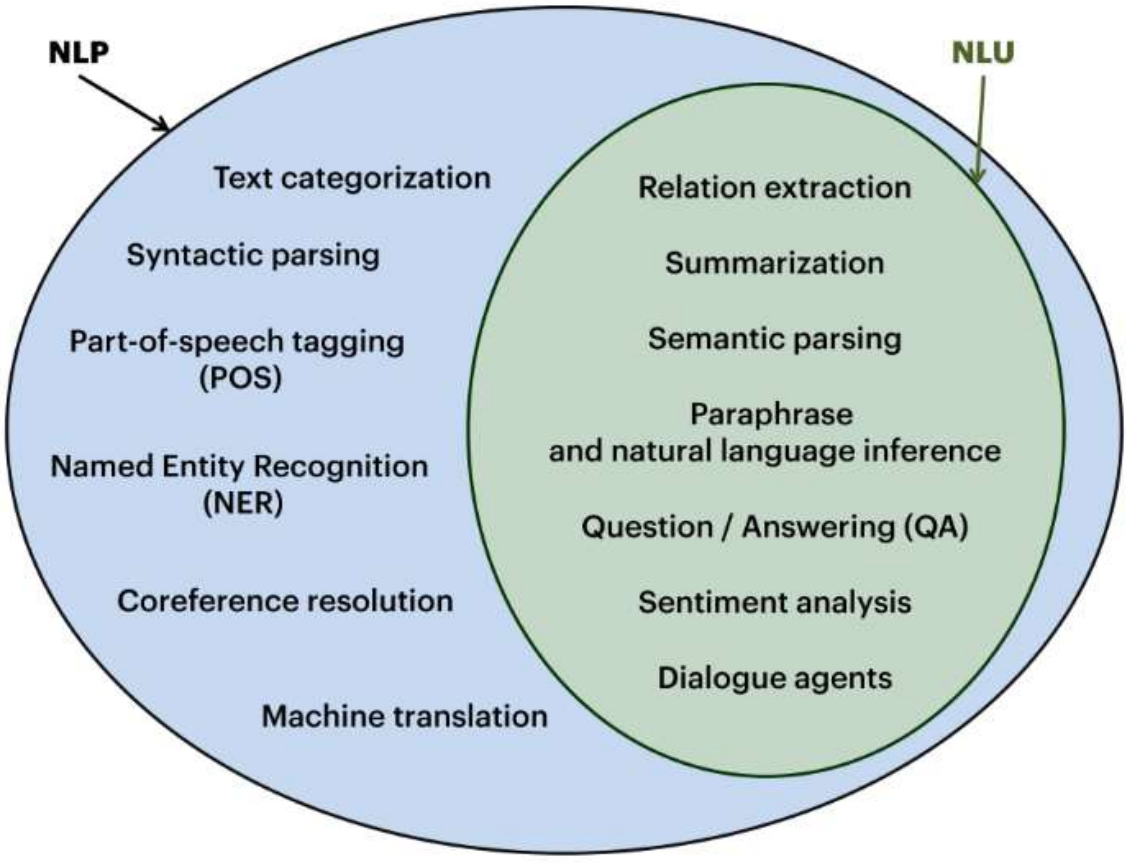
- A Libary for intent recognition and entity extraction based on SpaCy and Sklearn

NLP = NLU+NLG+ More ¶

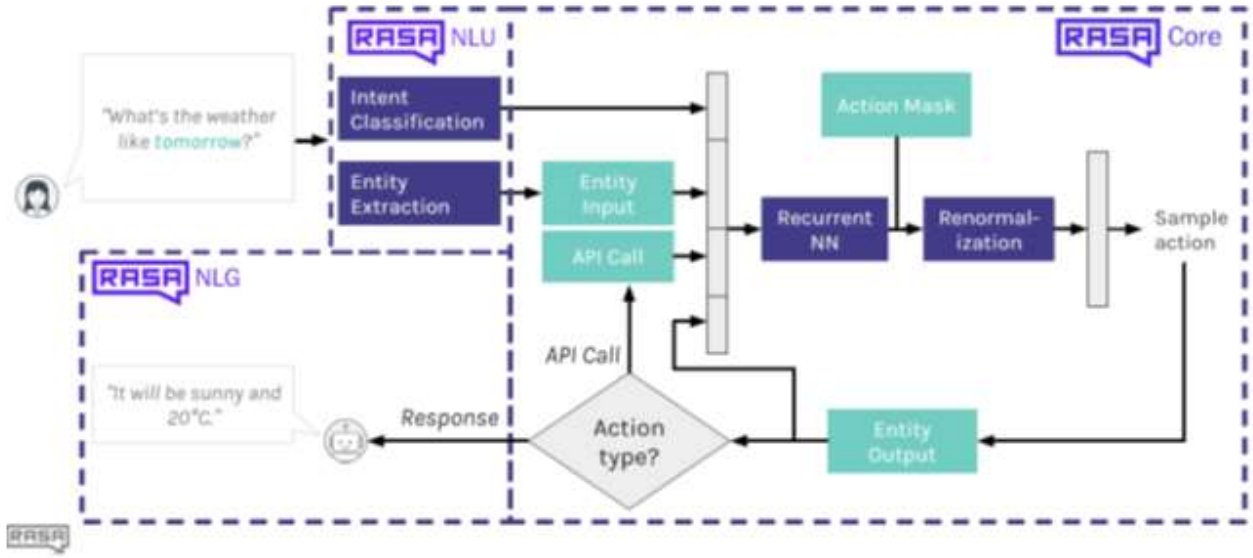
- NLP = understand,process,interprete everyday human language
- NLU = unstructured inputs and convert them into a structured form that a machine can understand and act upon

Uses

- Chatbot task
- NL understanding
- Intent classification



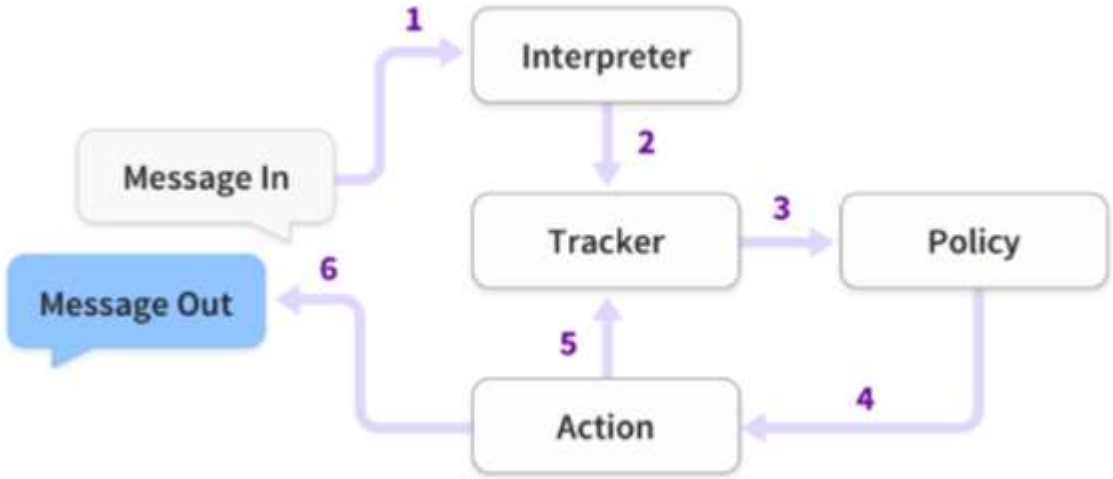
Stack is built for short messages and is able to perform tasks, so with one idea you can start to fill in this framework with sentences that form a dataset used to train your bot, then you configure NLU model, create dialogue patterns and a skeleton of the dialogues.



Intent maps user input to responses. It can be viewed as one dialog turn within the conversation. In each intent, are defined examples of user utterances, entities and how to respond.

Entities are keywords used to identify and extract useful data from inputs. While intents allow your bot to understand the motivation behind a particular user input, entities are used to pick out specific pieces of information that your user mention including entity values linked to the entities

Rasa framework is split into **Rasa NLU** and **Rasa Core** python libraries



Natural Language Understanding = **nlu.md**

config.yml" is embedded the processing pipeline

Spacy library provides a tokenization and parts of speech, with Spacy featuriser looks up a GloVe vector for each token and pools these to generate a representation of the whole sentence. Scikit-learn classifier trains a support vector machine model and the ner_crf trains a conditional random field to recognise the entitie

Two files are relevant: "**stories.md**" and "**domain.yml**".

The first one represents the training data for the dialogue management model: a draft of actual conversations with intents and entities for the user and actions for the bot. In a typical story:

- "##" stands for the beginning of a story;
- "*" stands for the messages sent by the user in the form of intents;
- "-" stands for actions taken by the bot.

Actions are expressions that your bot runs as answers to the user inputs. In Rasa Core there are three types of actions:

-**default actions** (action_listen, action_restart, action_default_fallback);

-**utter actions**, starting with "utter_", used as message sent to the user input;

-**custom actions** (any other action), they can be used with arbitrary code.