

Covid-19 Self Checker Chatbot

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Abstract

Chatbots

Alexa, Siri

Machine
Learning

Supervised Learning

RASA

Python Framework
for Chat Engine 24/7

Covid-19

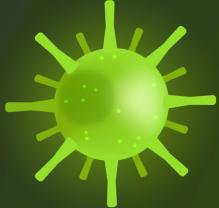
CDC FAQ's



INTRODUCTION

COVID-19 is an infectious disease caused by the recently found virus known as SARS-CoV-2 (or coronavirus). Before the outbreak originated in Wuhan, China on December 2019, there was no information about this virus

Why we need a Bot?



CHAT 24/7

Chat with the
bot anytime



n x SUPPORT

Bot can handle
queries from
multiple persons



NO WAIT TIME

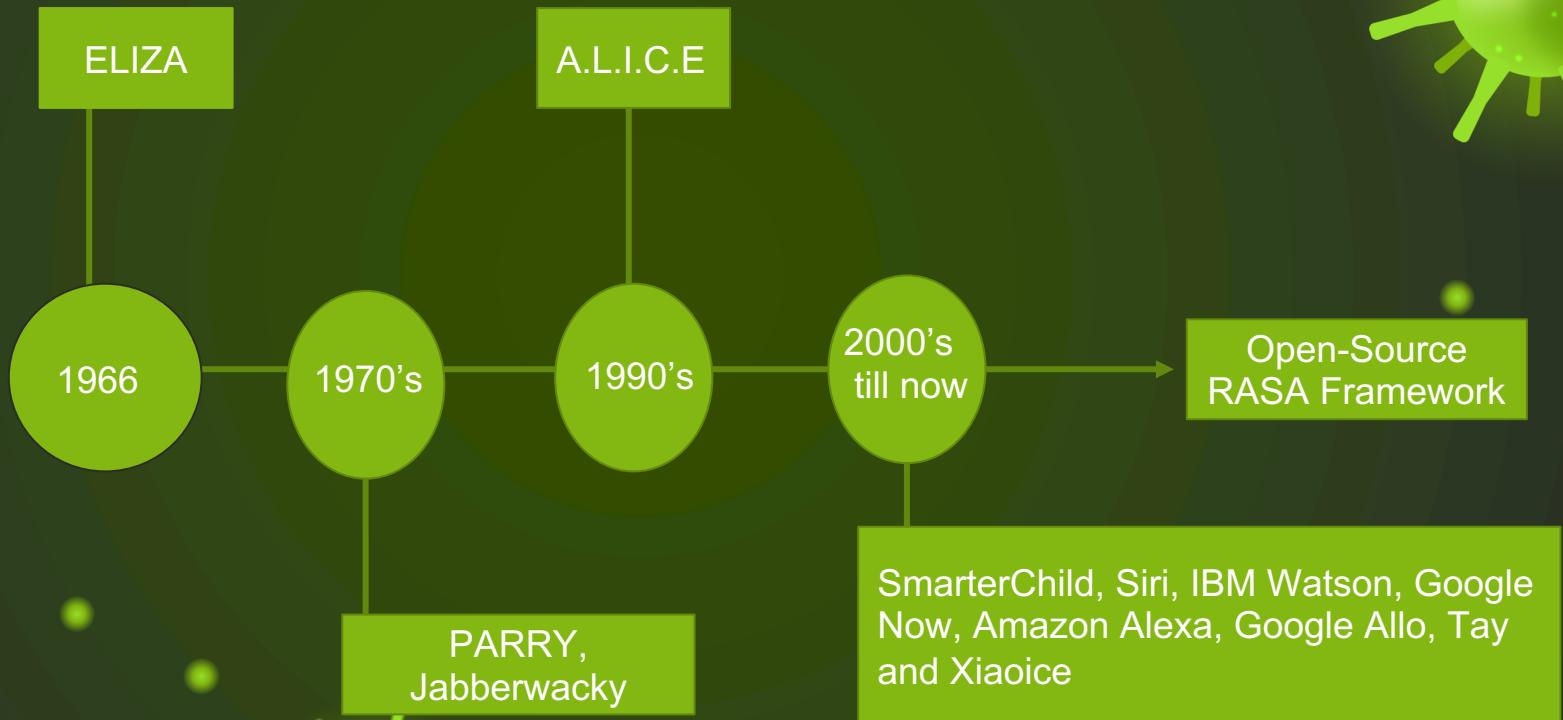
No Wait time to
get the Answers



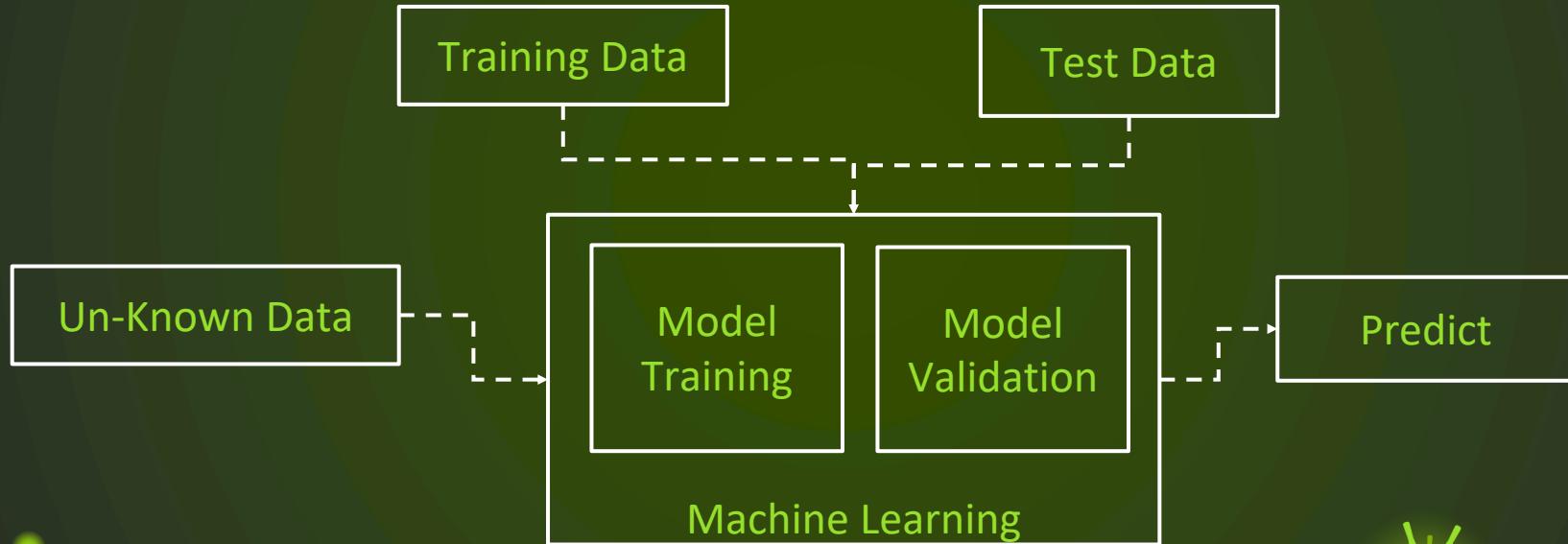
TRAIN

Bot can be
trained with new
AI/ML Algorithm
easily

History of Bots



Machine Learning



RASA Framework

Rasa is an open-source ML framework for automated text and voice-based conversations. It understands messages, conversations, messaging channels and APIs.

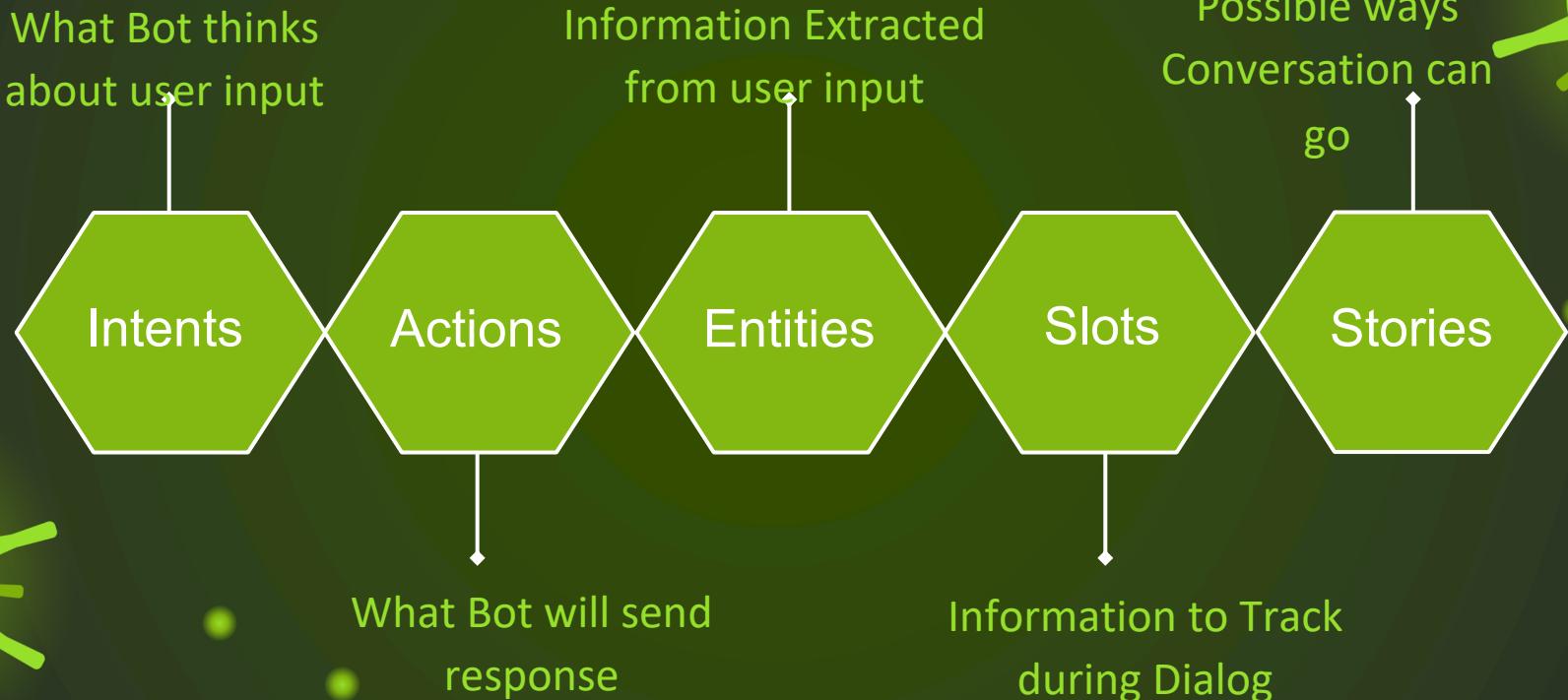
Understanding
User messages

Rasa NLU

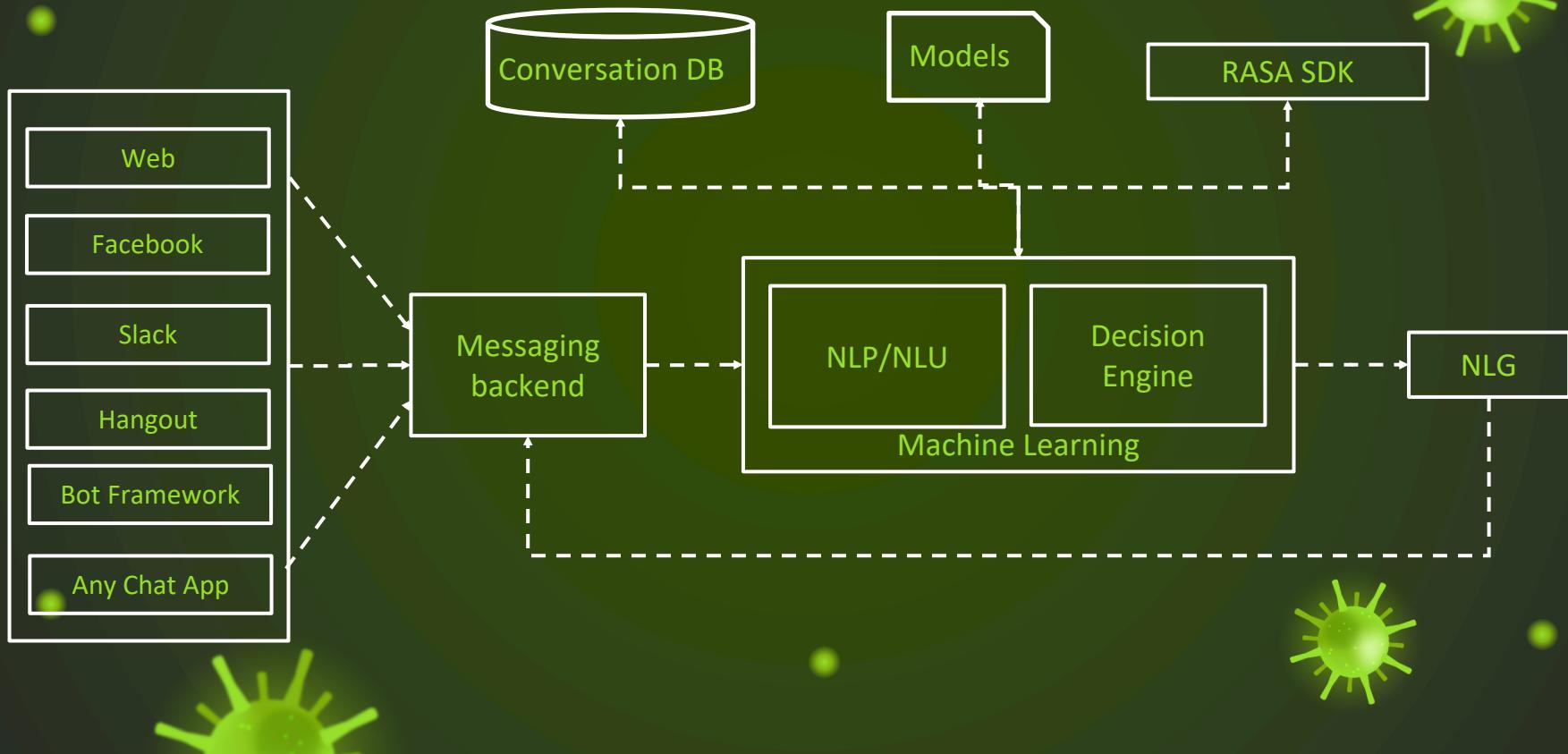
Rasa Core

Holding conversations
and Decision Engine

RASA Keywords



Chat Bot using RASA



Project Structure

`__init__.py` → An empty file that helps python find your actions

`actions.py` → Code for your custom actions

`config.yml` → Configuration of your NLU and Core models

`credentials.yml` → Details for connecting to other services

`data/nlu.md` → NLU training data

`data/stories.md` → Stories

`domain.yml` → Assistant's domain

`endpoints.yml` → Details for connecting to channels like fb messenger

`models/<timestamp>.tar.gz` → Trained model



COVID-19 Bot Keyword Examples



- intent: greet
- examples: |
 - Hi
 - Hey!
 - Namaste

- action: utter_sick
- text: Are you feeling Sick?
- buttons:
 - payload: Yes
 - title: Yes
 - payload: No
 - title: No

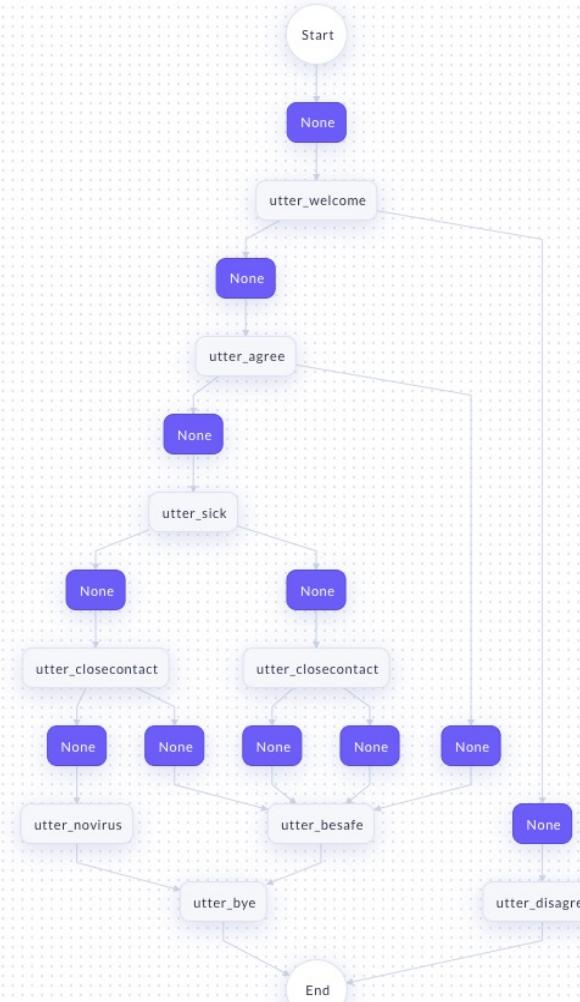
- story: Disagree Story
- steps:
 - intent: greet
 - action: utter_welcome
 - intent: utter_disagree
 - action: utter_disagree



Sample Stories of COVID-19 Bot

steps:

- intent: greet
- action: utter_welcome
- intent: utter_agree
- action: utter_agree
- intent: utter_no
- action: utter_sick
- intent: utter_no
- action: utter_closecontact
- intent: utter_no
- action: utter_novirus
- action: utter_bye



Limitation of most Bots!

Fixed Rule-based

All Rules are predefined
and Bot just follows

Ambiguity

Bot not able to identify
the Context of Sentence

Sentiment

Not able to identify
emotion of the Subject

Recommendatio n

Bot won't be able to
recommend outside of
the training

Grammatical Errors

Not able to identify
Language errors

Structure

Each language is
different in rules for
Punctuation

Accuracy

Sometime bots reply
without any context

Data Processing

No out of box Data
processing support

Third-Party Support

Not Much Integration
with Social platforms or
Language Support

Semantics

NLP Processing

Self-learning

No Self learning
mechanism to Improve

User Interface

Inadequate or poor
Documented Interface

Demo

RASA

You have been invited to have a conversation with **Bala**

Covid-19 Self-checker Chatbot Application

Hi 

Welcome to Covid-19 Self-checker tool. This is for informational purposes only. In case of any life-threatening emergency dial 911.

I Agree  I Disagree

I Agree 

People with COVID-19 have had a wide range of symptoms reported ranging from mild symptoms to severe illness. Symptoms may appear 2-14 days after exposure to the virus. Do you have any of these life-threatening symptoms?

- Pale, gray, or blue-colored skin, lips, or nail beds, depending on skin tone
- Severe and constant pain or pressure in the chest
- Extreme difficulty breathing (such as gasping for air, being unable to talk without catching your breath, severe wheezing, nostrils flaring)
- New disorientation (acting confused)
- Unconscious or very difficult to wake up

Start typing a message...   

Conclusion

Chatbot can do lot of things with proper training the system with NLP. Bot can work 24/7 without rest. This paper discussed a possible solution for converting a FAQs to a Chatbot which can help in diagnosing the symptoms. By providing this kind of solution, we can be able to provide mental health support and emotional help to the patients around the clock. By providing such solution we can provide a better support during a Pandemic kind of solution.

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Get Vaccinated



Thanks!

Do you have any questions?
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