Conversational AI with RASA

Duration: 4 Days (32 Hours)

Course Description:

The Rasa framework enables developers to create industrial strength chatbots using state-of-the-art natural language processing (NLP) and machine learning technologies quickly, all in open source.

This course covers the following:

- Use the response selector to handle chitchat and FAQs.
- Create custom actions using the Rasa SDK.
- Train Rasa to handle complex named entity recognition.
- Become skilled at building custom components in the Rasa framework.
- Validate and test dialogs end to end in Rasa.

Pre-requisites:

- NLP and NLU basics
- Python Programming Language

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1. Foundation of chatbots and the RASA framework
    a. Basics of Machine Learning
    b. Basics of Natural Language Processing (NLP)
    c. Basics of Chatbot
    d. Introduction to the RASA framework
2. Natural Language Understanding (NLU) in RASA
    a. Format of NLU training data
    b. Overview of RASA NLU components
    c. Configuring your RASA NLU via a pipeline
    d. The output of RASA NLU
    e. Training and running RASA NLU
3. RASA Core
    a. Understanding the universe of your bot (domain)
    b. Training data for dialogue management (stories)
    c. Reacting to user input (action)
    d. Understanding the memory of your bot (slots)
    e. Understanding the decision maker of your bot (policies)
    f. Connecting with other services via endpoints
    g. Building custom actions using RASA SDK
    h. Using channels to communicate with instant messaging software
4. Handling business logic
    a. The fallback mechanism in RASA
    b. Making intents trigger actions
    c. Using forms to complete tasks

5. Working with response selector to handle chit chat and FAQ's
    a. Defining retrieval intents - the questions users want to ask
    b. Defining responses - the answers to the questions
    c. Updating the configuration to use ResponseSelector
6. Knowledge Base Actions to handle question answering
    a. Why do we need knowledge base actions?
    b. How do you use knowledge base actions?
    c. How do you customize knowledge base actions?
7. Entity roles and groups for complex named entity recognition
    a. Why do we need entity roles and entity groups?
    b. Using entity roles to distinguish semantics roles in entities of the same type
    c. Using entity groups to divide entities into groups
    d. Configuring RASA to use entity roles and groups
8. Working principles and customization of RASA
    a. Understanding RASA's NLU module
    b. Understanding how RASA policies work
    c. Writing RASA extensions
9. Testing and production deployment
    a. Testing RASA projects
    b. Deploying your RASA assistant to production
10. Conversation-Driven deployment and interactive Learning
    a. Introduction to CDD
    b. Introduction to RASA X
11. Debugging, Optimization and community ecosystem
    a. Debugging RASA systems
    b. Optimizing RASA systems
    c. Understanding the community ecosystem of RASA