IBM Skills Academy

Big Data Track Specialization

Course Module – Cognitive Computing

Career path description

The Artificial Intelligence career path prepares students to apply AI in real-life. This will require skills in Cognitive Computing, Natural Language Processing (NLP), Conversation (Chatbots), and Computer vision. Training topics will include AI, IBM Watson, hands-on and case studies on NLP, Chatbots, and Vision.

General information

Delivery method

100% web-based

Version

2017

Product

IBM Watson

Audience

Undergraduate senior students from IT related academic programs i.e. computer science, software engineering, information systems and similar others

Learning objectives

After completing this course, you should be able to:

- Describe the field of AI and its subfields machine learning, NLP and computer vision
- Describe the types of AI
- List the factors that influenced the advancements of AI in recent years
- List applications of AI
- Explain what Machine Learning is
- Describe the types of machine learning: Supervise learning, unsupervised learning, and deep learning
- Explain neural networks
- Explain what NLP is and list its applications
- Explain what computer vision is and list its applications
- Explain what cognitive computing is and list the key characteristics of cognitive system
- Explain what IBM Watson is and how it works
- Explain how Watson technology is made available to developers and organizations
- Describe how Watson technology is being applied to solve real world problems
- Describe the evolution of Watson services from the original DeepQA architecture to the present
- List the Watson services available on the IBM Cloud
- Explain the capabilities of each Watson service
- Describe the purpose of training the various Watson services to adapt them to a closed-domain
- Use Watson API Explorer to interact with the Watson services REST API, to rest your calls to the API and to view live responses from the server

- Define NLP, its history, applications and use cases
- Understand the relationship between AI and NLP
- Define NLP tools and services, the NLP pipeline
- Gain hands-on experience with NLP
- Define chatbots
- Explain the factors that lead to the growing popularity of chatbots
- Identify applications that are good candidates to integrate with chatbots
- Describe the main components that are involved when building a chatbot and explain their purpose
- Describe how to build a chatbot by using the IBM Watson Conversation service
- Define what Computer Vision is
- Know the history and advancement of Computer Vision
- Identify some of the tools and services of Computer Vision
- Understand Computer Vision components
- Define the Vision pipeline.
- Learn about the Vision services that are available from IBM Watson.
- Create a service and train it to identify images.

Prerequisites Skills

- English Proficiency
- Exposure to the IBM Skills Academy Portal learning environment

Hardware requirements

Classroom (ILT) setup requirements	
Processor	Intel Core i7 CPU @ 2.7 GHz
GB RAM	4 GB
GB free disk space	40 GB
Network requirements	No
Other requirements	IBM ID