

Foundation for Knowledge Graph Technology

FA-0016

Software Development · Data & Analytics

Introduction

Course Overview:

This course provides an overview of the prerequisite concepts and skills required to take the Knowledge Graph Technology for Question Answering System course. The course covers the essential concepts and techniques in programming, natural language processing, and database systems.

Learning outcomes

Upon completion of this course, participants will be able to:

- Understand the basic concepts of programming and develop simple programs using Python
- Understand fundamental concepts and techniques of natural language processing
- Understand fundamental concepts of database systems and SQL

Prerequisites

- Computer System with installation rights
- Internet access
- Google account

For Online training:

- Dual Screens
- Audio and Video (mandatory to keep video on)
- Zoom

- Basic knowledge of computer operations and file management
- Basic understanding of statistics and probability
- Familiarity with basic concepts of linear algebra and calculus (recommended)

Training outline

1. Module 1: Programming Fundamentals

1. Introduction to programming
2. Data types and variables
3. Control structures (conditional statements, loops, and functions)
4. Data structures (lists, tuples, and dictionaries)
5. Basic file I/O

2. Module 2: Natural Language Processing (NLP) Fundamentals

1. Introduction to NLP
2. Tokenization and sentence segmentation
3. Part-of-speech tagging
4. Named entity recognition
5. Text classification

3. Module 3: Database Systems and SQL Fundamentals

1. Introduction to database systems
2. Relational database management systems
3. Data modeling and database design
4. SQL basics (SELECT, FROM, WHERE, JOIN, and GROUP BY)
5. SQL constraints (UNIQUE, NOT NULL, and FOREIGN KEY)

Duration:

- Total of 5 days
- Each begins at 9am and ends at 5pm
- One hour lunch break
- Two 15 minute breaks

