FACILITATE-AI

GUIDELINES FOR FACILITATING THE LEARNING OF ARTIFICIAL INTELLIGENCE
BY SCHOOL STUDENTS OF GRADES 7-12

Guidelines for facilitating the learning of Artificial Intelligence (AI) by School Students of Grades 7-12

Reference Number: 2021-1-CY01-KA220-SCH-000032567

C2 Training course: **Verification of training curriculum and developed learning materials**

Result 2 – A3

Module Number and Area/Topic: Module 3. 2. Prolog in the service of AI (Applications, e.g. family relationship)

Module owners: Plovdiv University, Bulgaria

Introduction and Broad Description of the Context and Goal of the area/topic addressed

This module aims to help teachers introduce the basic concepts, methods and techniques of classical and modern artificial intelligence, and in particular the ways of representing and processing semantic information, as well as the capabilities of Python and the logic programming language Prolog. To consider an application of semantic information processing and logic programming to describe and draw logical conclusions in the field of family relationships.

Learning objectives and **learning outcomes**

- To create and modify learning content related to knowledge representation, logic programming and use relevant examples and real-life situations.
- To organize and share learning resources
- To evaluate digital resources related to teaching and to interact through various digital technologies
- To share data, information and digital content with other participants in the learning process
- To use digital tools and technologies for collaborative learning processes and to co-create new data, resources and knowledge

Competences

- Evaluation data information and digital content
- Managing data information and digital content
- Integrating and re-elaborating digital content
- Programming
- Creatively using digital technology
- Using different digital tools and technologies for problem solving
- Active engagement of learners
- Adopting new methods of teaching and learning
- Increasing the effectiveness of teaching

Instruments/Tools/Supporting Material/Resources to be used:

- SWI Prolog, https://www.swi-prolog.org/

PART 1. Logic Programming with Prolog	
Learning Objectives	Introducing the features of logic programming with Prolog.
Learning Outcomes	To create and modify learning content related to knowledge representation, logic programming and use relevant examples and real-life situations.
Competences	• Evaluation data information and digital content • Managing data information and digital content • Integrating and re-elaborating digital content • Programming
Activities	• Introducing the features of logic programming with Prolog - presentation

PART 2. Examination of the LCP on the topic "Prolog in the service of AI"	
Learning Objectives	To consider an application of semantic information processing and logic programming to describe and draw logical conclusions in the field of family relationships.
Learning Outcomes	● To create and modify learning content related to knowledge representation, logic programming and Python programming, use relevant examples and real-life situations. ● To evaluate digital resources related to teaching and to interact through various digital technologies ● To use digital tools and technologies for collaborative learning processes and to co-create new data, resources and knowledge
Competences	● Using different digital tools and technologies for problem solving ● Active engagement of learners ● Adopting new methods of teaching and learning ● Application of algorithms in solving real problems ● Increasing the effectiveness of teaching
Activities	● Presentation of LCP on the topic "Prolog in the service of AI (Applications, e.g. family relationship) ● Presentation of study resources

PART 3. Discussion	
Learning Objectives	● To evaluate digital resources related to teaching and to interact through various digital technologies
Learning Outcomes	● To share data, information and digital content with other participants in the learning process ● To use digital tools and technologies for collaborative learning processes and to co-create new data, resources and knowledge
Competences	● Adopting new methods of teaching and learning ● Increasing the effectiveness of teaching
Activities	Discussion and evaluation