

Subject: Interesting computer science
Study year: 2022-2023
Study program: Prog-I
Exam period: 1
Place: A-1
Date: Monday 7th February, 2022

Number of points: /21

EXAM

Writing time: 90min

Name and Surname: _____

Student ID: _____

Grade: _____

INSTRUCTIONS

1. The exam consists of 10 questions.
2. The use of a calculator is not allowed.
3. Write only what the question asks for.
4. You do not get minus points for wrong answers.

Question 1

List some of the disadvantages of data standardisation. (3 POINTS)

Question 2

Write down the main features of intelligent systems. (2 POINTS)

Question 3

Please list at least 5 data preparation techniques, write down their characteristics, and for what purposes these methods are used.
(5 POINTS)

i) Why is it important to perform data preparation before starting to learn a classifier? (3 POINTS)

ii) What is meant by the term **dataset**, and how is it constructed? (2 POINTS)

Question 4

Circle the letter before the correct answer (1 POINTS)

1. Right one
2. First wrong
3. Second wrong

Question 5

What is the purpose of data standardization and normalization in machine learning and how do they differ? Can you provide examples of how these techniques are applied in practice, their benefits and limitations, and how they impact model performance? Can you also explain how these techniques can be used in preprocessing data for deep learning models and the impact of not properly standardizing or normalizing data on the training and prediction phases?
(5 POINTS)