UNIVERSITÀ
DEGLI STUDI DI MILANO-BICOCCA

COURSE SYLLABUS

String Algorithms

2324-114R001

Title

String Algorithms

Teacher(s)

Gianluca Della Vedova, Raffaella Rizzi

Language

English

Short description

You must enrol at least one week before the first lecture.
If you are unable to enrol, send an email to the teacher(s).

This course will present some of the fundamental efficient algorithms on strings and text.

The course is suitable to all students that are interested in algorithmic aspects of very large texts, such as those found, for example, in bioinformatics and in computational linguistics. The course is **not designed with a specific domain** in mind. The prerequisites are the algorithm courses that you can follow in a B.Sc./M.Sc. in Computer

Science. The course consists of 8 2-hour lectures where the students are expected to interact with the teacher.
A preliminary list of topics is:

1. Indexing text for exact pattern matching
2. Compressed suffix arrays
3. Enhanced suffix arrays
4. Approximate pattern matching
5. Band alignment
6. Four russians' technique
7. Hirschberg approach for linear space dynamic programming
8. Sparse dynamic programming

The exam consists of solving some assignments.

CFU / Hours

2 CFU.
The course consists of 16 hours of lectures. No lab activities is planned.

Teaching period

June 2024

Sustainable Development Goals

QUALITY EDUCATION