



2023
MEGALITH
Annual Civil Engineering Technological Fest
IIT Kharagpur

PRESENTS

DATACHUNT



INFORMATION

Megalith provides a unique opportunity for engineering and science students to showcase their coding and analytical skills along with machine learning techniques while solving arduous problems in civil engineering through DataHunt. In this event, participants are given a problem statement related to civil engineering challenges. They need to formulate an efficient algorithm to solve it.

PROBLEM STATEMENT

Ultra High-Performance Concrete (UHPC) is a new class of concrete developed in recent decades for its exceptional strength and durability properties. This high-performance concrete can be utilized in structural rehabilitation and accelerated bridge construction in addition to several other applications.

The given dataset contains 300 experimental data covering 16 mixed design variables of UHPC corresponding to compressive strength. The task is to model all the design variables and then predict the compressive strength of Ultra-High-Performance Concrete using different ML and AI techniques.

WHAT IS EXPECTED FROM PARTICIPANTS:

1. Analyze the given data and develop a relevant machine-learning model to predict compressive strength.
2. Prepare a presentation describing all the approaches used to accomplish the task (Introduction, data description, methodologies, results, conclusion)
3. Present the whole work in front of judges.

FILES

Train data : Train Data

Test data : Test_Data

Sample submission : Sample submission

Each column describes particular desing variable

1. Cement-to-cm
2. cement type(Mpa)
3. Fly ash-to-cm
4. Slag-to-cm
5. Silica fume-to-cm
6. Metakaolin-to-cm
7. Nano silica-to-cm
8. Limestone-to-cm
9. Quartz powder-to-cm
10. Sand-to-cm
11. Maximum aggregate size(mm)
12. Water-to-cm
13. Superplasticizer-to-cm
14. Steel fiber volume %
15. Aspect ratio of fiber

RULES

1. The event is open to all.
2. It will happen in 2 rounds.
 - The first round is submitting your predicted file in form of .csv.
 - The second round is the preparation of the presentation and presenting it in the fest.
 - Note: Submission file should be submitted in the format given in the sample submission file only.
3. The presentation round will be taken offline during the fest, within the campus of IIT Kharagpur.
4. A team must consist of a minimum of 2 members and a maximum of 5 members.
5. At the time of the presentation, teams must consist of at least 2 participants.
6. Every team will be given 12 minutes to present their work to the judges.
7. The decision of the judges shall be final
8. Any sort of plagiarism will lead to direct disqualification.
9. The team must participate in both rounds to get evaluated.

JUDGING CRITERIA

1. The efficiency of the model - 40%
2. Detailed content in ppt - 25%
3. Overall flow of contents and design of ppt - 20%
4. Relevancy, Clarity, and Time Boundness during Presentation - 15%

CONTACTS

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