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| <p>IT496: Introduction to Data Mining<br/>Course Project - 03<br/>[Deadline: 14<sup>th</sup> November 2023, Tuesday 11:59 PM]</p> |
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## **Course Project-03: ICC Cricket World Cup 2023 ML Challenge**

The ICC Cricket World Cup 2023 is one of the most anticipated cricket events of the year. In this machine learning challenge, students are tasked with building and deploying a predictive model to make informed predictions related to the tournament.

**Project Duration:** 3 weeks

**Please adhere to the lab policies mentioned in the Google Classroom**

Cite resources and give credit where it's due. If you discuss the questions with your peers, please mention your collaborators in your submission.

Acts of plagiarism will not be tolerated and result in a straight ZERO for this project.

Teams who don't submit their assignment by 14th November 2023, will get ZERO.

There are 3 tasks in this course project, which are discussed in the further section.

In evaluation, your answers for the tasks and the code will be reviewed. Every team member must know their submission's concepts and code. Any member can be asked anything about their role and contributions in submission.

The dataset should be properly documented and cited if it is not publicly available.

You should follow ethical guidelines and respect copyright laws when using data from various sources.

# IT496: Introduction to Data Mining

## Course Project - 03

[Deadline: 14<sup>th</sup> November 2023, Tuesday 11:59 PM]

### Project Tasks

**Design, develop, and deploy an ML RESTful API to perform the following tasks on the dataset of your choice. You can use your own choice of technologies and Python frameworks for API development and deployment. Note that you must use ANN (or DNN) as one of your ML techniques for the following tasks.**

#### Task 1: Unleash Your Creativity

You can choose **two** specific problem statements or prediction tasks related to the ICC Cricket World Cup 2023. Some examples of problem statements include:

- Predicting the batsman who will score most runs/ hit most sixes/ make most centuries in the tournament.
- Predicting the bowler who will be the leading wicket-taker in the tournament.
- Predicting the number of sixes/boundaries/5-wicket hauls/hundreds in this tournament for an individual player or team.

#### Task 2: Predicting the Finalist Teams and Players

You are required to predict the two finalist teams in the ICC Cricket World Cup 2023 and the players (11 players for each finalist team) who are likely to be part of these teams. This task involves team composition prediction.

#### Task 3: Predict the Winner of ICC Cricket World Cup 2023

You should predict the winner of the ICC Cricket World Cup 2023.

#### Dataset:

For accurate predictions, comprehensive and reliable data is essential. Students are encouraged to collect data related to past cricket matches, including team performance, player statistics, match conditions, and venue details from sources like sports channels, the ICC website, and leading data repositories on platforms such as Kaggle. The dataset should ideally cover a sufficient period, including recent matches, to ensure the accuracy of predictions.

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## **Submission**

You are required to push your submission files to GitHub repository and submit the GitHub link in Google form (which will be provided at submission deadline). The submission should have the necessary comments and no changes should be made to the submission after the deadline. Late saved changes will be considered as a late submission.

### **GitHub Repository Requirements:**

#### **a) Readme File:**

- The repository must include a well-structured and informative readme file.
- The readme should provide an overview of the project, its purpose, features, and functionalities.
- Include clear installation instructions, prerequisites, and usage guidelines.
- Mention any external dependencies or libraries required to run the code.
- Explain the contributions of each team member and reasoning for the approach. Marks will be awarded for the explanation and contributions in this challenge.

#### **b) Code Files:**

- The repository should contain all the relevant code files related to the project.
- Ensure that essential code files are included, such as .ipynb files, .py files, or any other code documents.
- Organize the code files logically within the repository's directory structure.

### **Evaluation Criteria:**

- Accuracy of predictions for each task.
- Creativity and originality in Task 1.
- Clarity and completeness of the README file.
- Organization and quality of the code in the repository.