MLusion

RULE BOOK

PROBLEM STATEMENTS

1. GREEN ENVIRONMENT/ENERGY SAVING/OPTIMIZATION:

Use machine learning for optimizing energy consumption in smart homes and industries, detecting environmental patterns for pollution control, and improving renewable energy distribution.

2. FINANCIAL LITERACY:

Apply machine learning to analyze financial data for personalized budgeting, investment advice, and risk assessment.

3. BUSINESS ANALYTICS DOMAIN:

Implement machine learning for customer segmentation, sentiment analysis, and predictive analytics to enhance business decision-making.

4. HEALTHCARE:

Utilize machine learning for medical image analysis, predictive modeling of disease risks, and natural language processing for health record analysis.

5 EDUCATION:

Develop machine learning models for personalized learning, student performance prediction, and curriculum optimization.

6. SAFETY & SECURITY

Implement machine learning for video surveillance, crime prediction, and anomaly detection in cybersecurity.

7. OPEN INNOVATION

Use machine learning to facilitate interdisciplinary collaborations, recommend collaborators, and analyze open datasets for innovation insights.

TEAM SIZE

Teams must consist of *2 to 4* members, with each member actively contributing to the development and presentation of the solution.

DATES

Registration and Submission Start Date:
11 **April, 2024**

Registration and Submission End Date:
10th May, 2024

Registration forms will be open throughout the submission period.

GENERAL GUIDELINES

- Participants are encouraged to prioritize the *"Need to Have"* (see: Evaluation Criteria) criteria in their solution design and implementation.

- Solutions should leverage machine learning techniques to address the specified problem statements effectively.

- Teams are encouraged to consider the societal impact of their solutions and aim for ethical and responsible AI development.

- Utilization of open-source machine learning frameworks, datasets, and pre-trained models is permitted and encouraged.

SUBMISSION

- Only team leaders are allowed to fill the submission form.
- Each team must submit a *zip file* containing: Source code of the developed solution, PowerPoint presentation outlining their solution, adhering to the specified layout guidelines.
- Mandatory: Source code and PPT of the solution.
- *Optional:* Any additional videos demonstrating the functionality or impact of the solution.
- The zip file should be named in the format *"TeamName_LeaderName_Year.zip"*.
- The zip file should be submitted in the Submission google form which will be circulated to you.
- *Note:* You have to register before submitting your project. Your submission will NOT be considered if you have not registered.

EVALUATION CRITERIA

Need to Have:

- Accuracy Scores and Model Performance:
  For *Supervised Learning*:
  F1 Score/Accuracy/Confusion Matrix/Precision

  For *Unsupervised Learning*:
  Silhouette Coefficient/Cumulative Explained Variance

  For both learnings, any of these metrics are required.
- Technical Complexity and Efficacy
- Alignment with Problem Statement
- Feasibility and Scalability

Good to Have:

- Potential Social Impact
- Ethical Considerations
- Economic Viability
- Presentation Quality and Clarity