ML & NLP Mastery Challenge: Official Rule Book

1. Introduction

Welcome to the ML & NLP Mastery Challenge! This competition is designed to test your skills in building and deploying robust machine learning and natural language processing models. Teams will be challenged to demonstrate their expertise in data preprocessing, model selection, training, evaluation, and deployment. The goal is to create intelligent systems that make accurate predictions, recommendations, and decisions based on complex data.

2. Event Details

- **Event Dates:** October 12-13, 2024
- **Location:** Expo Center, Karachi
- **Competition Duration:** 2 hours per team
- **Schedule:**
  - **Model Development and Deployment:** 90 minutes
  - **Storytelling and Presentation:** 30 minutes

3. Objectives

Teams will be provided with a dataset and are required to:

1. **Data Preprocessing:** Clean and preprocess the data to make it suitable for modeling.
2. **Model Development:** Build and train ML/NLP models using the preprocessed data.
3. **Model Evaluation:** Evaluate model performance using appropriate metrics and techniques.
4. **Deployment:** Deploy the model in a test environment or demonstrate its application.
5. **Storytelling and Presentation:** Present the developed models, their performance, and practical implications.

4. Eligibility

1. **Participants:** Open to teams of exactly 2 members.
2. **Affiliations:** No restrictions based on professional or academic affiliations.

5. Dataset and Deliverables

1. **Dataset Provision:**
   - **Format:** The dataset will be provided in a format suitable for ML and NLP tasks (e.g., CSV, JSON).
   - **Access:** Datasets will be distributed on-site.
2. **Deliverables:**
   - **Data Preprocessing:** Preprocessed dataset and code.
   - **Model Development:** Trained model(s) with associated code and documentation.
   - **Model Evaluation:** Evaluation report including performance metrics and insights.
   - **Deployment:** Demonstration of model deployment or application.
   - **Storytelling and Presentation:** A 30-minute presentation summarizing the approach, results, and insights.

6. Competition Format

1. **Phase 1: Model Development and Deployment (90 minutes)**
   - **Tasks:**
     - **Data Preprocessing:** Clean and prepare the dataset.
     - **Model Development:** Build and train ML/NLP models.
     - **Model Evaluation:** Evaluate and refine the models.
     - **Deployment:** Deploy the model or demonstrate its application in a test environment.
   - **Tools:** Participants may use any tools, software, or programming languages they prefer.
2. **Phase 2: Storytelling and Presentation (30 minutes)**
   - **Tasks:** Prepare and deliver a presentation that effectively communicates:
     - The approach used for data preprocessing and model development.
     - Performance metrics and evaluation results.
     - Insights and practical implications of the model.
   - **Format:** Presentations will be made to a panel of judges.

7. Judging Criteria

1. **Data Preprocessing:**
   - Completeness and appropriateness of data cleaning and preparation.
   - Handling of missing values, outliers, and data transformation.
2. **Model Development:**
   - Innovation and effectiveness of the model approach.
   - Accuracy and relevance of the model's predictions or recommendations.

3. **Model Evaluation:**
   o Thoroughness of model evaluation.
   o Use of appropriate metrics and techniques to assess performance.
4. **Deployment:**
   o Functionality and robustness of the deployed model.
   o Demonstration of practical application or deployment scenario.
5. **Storytelling and Presentation:**
   o Coherence and clarity of the narrative.
   o Quality and professionalism of the presentation.
   o Ability to effectively communicate complex information to a non-technical audience.

---

8. Code of Conduct

1. **Fair Play:** Participants must adhere to principles of honesty and integrity. Any form of cheating or plagiarism will result in disqualification.
2. **Respect:** Maintain respect for all participants, judges, and organizers.
3. **Collaboration:** Teams of exactly 2 members are allowed. All members must contribute actively to the project.

---

9. Resources and Support

1. **Tools:** Participants may use any tools, software, or programming languages they are familiar with.
2. **Guidelines:** Detailed competition guidelines will be provided on-site.
3. **Support:** On-site assistance will be available for any queries.

---

10. Prizes and Recognition

1. **Awards:** Prizes will be awarded to the top-performing teams. Details on prizes will be announced separately.
2. **Recognition:** Winners will be featured on the event's website and may receive certificates or trophies.

11. Disqualification and Appeals

1. **Disqualification:** Grounds for disqualification include plagiarism, cheating, or failure to follow competition guidelines.
2. **Appeals:** Participants may appeal disqualification decisions by submitting a written request to the competition committee. The committee's decision is final.

12. Important Dates

- **Competition Dates:** October 12-13, 2024

13. Contact Information

For any questions or additional information, please contact us at:

- **Email:** contact@teknofestpakistan.com
- **Website:** www.teknofestpakistan.com
- **Phone:** +92 300 9278612 | +92 334 2995610

Good luck to all participants! We look forward to witnessing your mastery in ML and NLP!