# SynergyX 2024: National Symposium on Industry-Academia Collaboration for ICT-Enabled Bangladesh

## Datathon Competition: Full Guidelines and Rule Book

We are excited to announce SynergyX 2024, an event aimed at fostering collaboration between academia and industry. As part of this symposium, we are organizing a Datathon Competition open to universities nationwide. The competition will consist of three key stages, providing participants with opportunities to enhance their data science, machine learning, and AI skills.

## Datathon Overview

The competition will unfold in three key stages:  
  
**1. Grooming Sessions:** Teams will participate in 5 interactive grooming sessions, covering essential topics in data science, including Data Cleaning, Data Engineering, Model Training, Natural Language Processing (NLP), and Computer Vision.  
  
**2. Preliminary Round:** After the grooming sessions, teams will engage in a virtual data challenge to test their skills and qualify for the final.  
  
**3. Final Onsite Contest:** The top 10 teams from the preliminary round will compete in an onsite final, taking place over two days on November 9 and 10 at AI-Lab.

## Step 1: Team Formation and Grooming Sessions

### Team Formation

**1. Team Registration:** Teams must be formed before the grooming sessions begin. Each team will consist of 3 members. Members may be from the same or different universities.  
  
**2. Registration Fee:** The registration fee for each team is **1,500 BDT**, covering both the grooming sessions and competition stages.

### Grooming Session Structure

**Total Sessions: 5 interactive grooming sessions designed to equip teams with the skills needed for the Datathon.**

**Session Outline:**  
**Data Cleaning**  
**Feature Engineering**  
**Model Training and Evaluation Criteria**

**Natural Language Processing (NLP)**  
**Computer Vision**

### **Why Attend the Grooming Sessions?**

1. **Hands-on Learning**: Gain practical experience with key data science topics, making complex concepts easier to understand.
2. **Expert Guidance**: Learn from experienced professionals who share valuable industry insights and best practices.
3. **Team Collaboration**: Connect with teammates to share ideas and strengthen your team's foundation for the competition.
4. **Inclusive for All Levels**: Open to everyone, these sessions benefit beginners and experienced participants alike, helping you build confidence and skills for the competition.

## Step 2: Preliminary Round

### Preliminary Contest Details

**1. Challenge Format:** After the grooming sessions, teams will participate in a virtual preliminary data challenge, serving as the first competitive stage.  
  
**2. Evaluation Criteria:** Teams will be judged based on technical accuracy, problem-solving creativity, and collaboration.  
  
**3. Shortlisting: The 10 best teams will be shortlisted for the onsite contest based on their performance in the preliminary round.**

## Step 3: Onsite Final Contest

### Final Contest Details

**1. Onsite Event:** **The top 10 teams will compete in an onsite final competition at AI-Lab on November 9 and 10.**  
  
**2. Advanced Challenges:** The final contest will present more complex data challenges, requiring teams to utilize their skills from the grooming and preliminary rounds.

### **Judging Criteria**

Teams will be evaluated based on the following:

1. **Technical Accuracy**: Assessment of how effectively the problem was addressed and solved.
2. **Innovation**: Evaluation of the uniqueness and creativity demonstrated in the solution.
3. **Teamwork**: Analysis of how well team members collaborated and communicated to achieve their goals.
4. **Presentation**: Clarity in introducing team roles, defining the problem, outlining objectives, detailing methodology, presenting results, and discussing data sources, algorithms, innovations, real-life applications, business value, and overall impact.

## Rules and Guidelines

### General Rules

**1. Eligibility:** Open to students from any university in Bangladesh.  
**2. Team Composition: Teams must have 3 members.** Members can be from the same or different universities.  
**3. Grooming Sessions:** **Teams must register to qualify for the preliminary round, but attending the five grooming sessions is optional.**

**4. Commitment:** Participants are expected to remain committed throughout the competition. The registration fee is non-refundable.  
**5. Submission:** Teams will submit their solutions in both the preliminary and final rounds. Judging will be based on technical accuracy, creativity, and teamwork.

## Contest Rules

**Participants who cannot attend the session can still join the contest by first participating in the pre-selection round by paying the registration fee.**

**1. Pre-Selection** : Those who participate in the grooming session, as well as those who do not, must all participate in the mandatory pre-selection round to be eligible for the final on-site contest.

### **2.Competition Format**

* **Duration**: Typically **lasts 6 hours to 8(on November 9 and 10, 2024)**
* **Stages**:
  + **Problem Understanding**
  + **Model Development**
  + **Testing & Validation**
  + **Final Submission** (includes code, predictions, and Presentation)

### **3. Dataset and Tools**

* **Dataset**: A specific dataset will be provided at the start. External datasets are allowed only if specified in the problem statement.
* **Tools**: Participants may use Python, TensorFlow, PyTorch, Scikit-learn, etc. Paid tools are not permitted unless provided by the organizers.

### **4. Team Composition**

* Each team can have a **maximum of 3 members**. No changes to team composition are allowed once the competition starts.

### **5. Submission Requirements**

* **Code**: Must be well-commented and include preprocessing, training, and evaluation steps.
* **README**: Should include clear instructions for running the code.
* **Output**: Must match the specified format (e.g., CSV, JSON).
* **Presentation**: Mandatory. Should explain the approach, performance metrics, and potential real-world applications.

### **6. Evaluation Criteria**

* **Model Performance**: Evaluated based on accuracy, AUC, RMSE, etc.
* **Innovation**: Creative and novel approaches to solving the problem.
* **Scalability**: Ability of the solution to handle larger datasets or more complex scenarios.
* **Code Quality**: Readability and documentation quality.
* **Real-World Applicability**: Demonstrating practical applications for the solution.

### **7. Conduct and Collaboration**

* All work must be original. No collaboration or external help is allowed outside of registered team members.
* Professional behavior is required at all times. Any violations may lead to disqualification.

**8. Machine Allocation:**  **Each participant will bring their local machine for the on-site contest. Additionally, we will provide one GPU per team from our AI lab.**

## Prizes and Recognition

**1. Awards:** Winning teams will receive certificates, trophies, and cash prizes.

* **1st Place: BDT 15,000**
* **2nd Place: BDT 10,000**
* **3rd Place: BDT 8,000**

**2. Recognition:** Exceptional teams may have the opportunity to present their solutions at SynergyX 2024, opening doors for internships or job opportunities with attending industry professionals.

## Important Dates

**1. Team Registration Deadline: [30 October]**  
**2. Grooming Start Date: [17 October]**  
**3. Preliminary Round: [ ]**  
**4. Final Onsite Contest: November 9 and 10, 2024.**

## How to Register

For Team Registration:  
**1. Form a Team:** Teams must consist of 3 members.  
**2. Register Online:** Complete the online registration form and pay the **team registration fee of 1,500 BDT.**  
**3. Attend Grooming Sessions:** All team members are required to attend the 5 grooming sessions.

We look forward to seeing your innovation and teamwork in the SynergyX 2024 Datathon Competition! Prepare to compete, collaborate, and excel in this data-driven event!  
  
For more information, **please contact us at [Insert Contact Information].**

**(Registration Link:**[***https://forms.gle/iZhD4jK91j3JoEWi6***  
***Datathon Registration Link***](https://forms.gle/iZhD4jK91j3JoEWi6)

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