

TECHFEST 2022-23 FIND THE LAG

BACKGROUND

The input lag is an important specification for gamers. This determines the millisecond's delay between controller user input and screen. The lower the input lag, the faster the response to your actions. A response time greater than 80 ms is unsatisfactory. The targeted value is between 50-75 ms. The response time is crucial, especially in fast-paced video games. Refer to the presentation for further details.

TASK

Participating teams have to design an ML model / any other software model / innovative techniques to measure the latency between pressing the button on the mouse and the computer registering the result in a video.

A training data set of videos will be provided to the participants. The video contains a blue LED light that turns on for an instance with the press of the button on the mouse. The result of this action is visible on the monitor screen in the frame. Participants are expected to find the delay between the blink of the LED light and the motion on the motor screen.

The series of images shows the setup in the video frames.



Fig 1: The setup showing the Monitor and LED panel



Fig 2: The blue light blinking on the input from the user



Fig 3: The resultant output on the monitor screen

GENERAL RULES

- Every team has to register online on the Techfest website for the competition. A Team ID will be allocated to the team on registration which shall be used for future references.
- A team can register at any point of time before **20th October** and submit the final abstract and video (as mentioned in the structure).
- The decision of the organizers and/or judges shall be treated as final and binding on all.
- Techfest has all the rights to verify the identity and accuracy of the details provided by the participants.
- Techfest, IIT Bombay will hold no responsibility for any late, lost, or misdirected entries.



- The idea presented by the teams should be original (not protected by patent/copyright/technical publication by anyone else).
- Note that at any point in time the latest information will be that which is on the website.
- All modes of official communication will be through the Techfest e-mail.

TIMELINE

Session from Ubisoft experts	TBD
Last date of registration	20th October
Round 1 Submission deadline	20th October
Round 1 results announcement	27nd October
Round 2 Submission deadline	30th November
Final presentation	16th-17th December
Winners announcement	17th December

STRUCTURE AND EVALUATION

Round 1: Abstract and code submission

During this phase, each team would build its model and upload the results. It would be compared against the test data held back and a ranking of participants would be generated based on the accuracy achieved. **Mean Squared Error (MSE)** or similar metric would be used for evaluating model performance. The top 10 teams from this phase would be shortlisted for round 2 (provided they suffice a minimum scoring criteria which will be decided by judges). A minimum threshold would be provided to the participant to verify the accuracy of their algorithm.

The last date for Round 1 Submission is **20th October**



Round 2: Final Submission and Presentation at Techfest

The top 25 teams would be given time to refine their model during this phase and present their final model. Participants must also prepare a brief presentation that summarises their model. Your model would be judged on how original, effective and scalable your approach is. Evaluation of round 2 would be based on **60%** model performance and **40%** on the scores of the Judge's Panel. Round 2 Submissions must be completed by **30th November**. The top 10 teams would be given time to present their final mode to the Judges Panel during Techfest at IIT Bombay. Evaluation criteria for this would be shared at a later stage.

The last date for Round 2 Submission is **30th November**

Top 10 teams will present their solution in **Techfest**, IIT Bombay from **16th-18th December**

TEAM SPECIFICATIONS

- A team may consist of a maximum of 3 members.
- Students from different educational institutes can form a team.
- All students with valid identity cards from their respective educational institutes are eligible to participate.

CERTIFICATE POLICY

- Shortlisted teams for the finals which also give a final presentation about their work during Techfest 2022-23 would be awarded an e-Certificate of Participation.
- The top 2 teams after the final result declaration would be provided with an e-Certificate of Excellence.

PRIZE MONEY

The prize money will be awarded to the top 2 winners via NEFT and will be processed within 30 working days after receiving the prize money from sponsors. The top 10 teams will get a certificate of excellence. Winners have to mail their bank details (immediately after the announcement of results) to abhishek@techfest.org in the format specified below.



FORMAT OF MAIL

Subject: Find the Lag, Team_ID, Position (example: Find the Lag, FL200468, 2nd Position)

Body of mail

Account Holder's Name

Account Number

Bank name and Branch name

IFSC Code

Photograph of Bank Passbook as a proof