HACKATHON 2024

"INNOVATE, INSPIRE, IMPACT"

PROBLEM STATEMENT

The hackathon presents an exciting opportunity for participants to showcase their creativity, problem-solving skills, and technical expertise. It offers a unique platform to collaborate, innovate, and tackle real-world challenges within a limited timeframe. Participants will not only gain valuable experience but also stand a chance to secure internships, job offers, and exclusive industry exposure. This event is designed to push boundaries and unlock potential, creating a meaningful impact on both personal and professional levels.

Here are the problem statements for the hackathon. **You are encouraged to select the one that best aligns with your skills and expertise.** Choose the challenge that excites you the most and allows you to showcase your unique strengths.

Problem statement 1:

Long Range Object Detection: Design AI models capable of accurate long-range object detection & calcification across challenging environments.

Challenge:

> ➢ Detect objects like humans, cars, or drones from significant distances with high accuracy.
> ➢ Handle environmental factors such as weather, low visibility, or motion.

OR

Problem statement 2:

PIN Cracking: Develop innovative and efficient methods to crack a 6-digit PIN using Brute Force Attack techniques, MitM Attack, Exploiting Vulnerabilities, Side Channel Attack.

Challenge:

> ➢ Devise efficient to crack the 6-digit PIN within limited attempts or time constraints.
> ➢ Bypass the Devices additional security layers.

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Rules & Guidelines:

- ❖ Duration: A **48-hour hackathon** with continuous development, prototyping, and testing.
- ❖ Team Size: **Maximum 3 participants** per team.
- ❖ Original Work: All code and models must be developed during the event; no pre-built solutions allowed.
- ❖ Use of Public Resources: Participants may use publicly available datasets, tools, and libraries.
- ❖ Ethics: The PIN cracking challenge must be approached with ethical guidelines in mind—focused on security research.
- ❖ No External Assistance: Teams cannot seek outside help or use pre-existing PIN-cracking algorithms.
- ❖ Mentorship: Access to expert mentors from academia and industry for real-time guidance.
- ❖ Limitations: For the PIN challenge, a limited number of guesses (e.g., 10 attempts) or time constraints (e.g., 5 minutes) will apply.
- ❖ Submission Deadline: All solutions must be submitted within the 48-hour timeframe.
- ❖ Final Demo: Each team will present a working prototype and blueprint of their solution, followed by Q&A from the judges.

Judging Criteria:

- ✓ **Accuracy:** The precision of object detection models and the effectiveness of PIN-cracking.
- ✓ **Innovation:** Creative approaches to solving the challenges, including novel AI architectures and unique algorithmic methods.
- ✓ **Efficiency:** Real-time performance for long-range detection, and speed for PIN cracking within defined constraints.
- ✓ **Practicality**: Solutions must have real-world applicability, scalability, and potential for future development.

Final Submission:

Please submit your solutions via following form:

Submission Form

For any queries w.r.t. the problem statement please reach out to us via email