DUALITY Astrakshaya STEPCRAFT

SkyHack 2.0

Welcome To SkyHack 2.0, A Premier National-Level Hackathon Organized By Astrakshaya, With Support From Duality AI And Stepcraft. Compete For A Massive Prize Pool Of Over ₹1,00,000! This Event Is Designed To Push The Boundaries Of Innovation Across Hardware, Software, And AI.

Official Registration Website: Https://Www.Cittumkur.Org/Skyhack/

Event Structure & Timeline

The Hackathon Is Divided Into Two Phases: An Online Idea Submission Phase And An Offline 24-Hour Hackathon.

- Registration & Phase 1 Deadline: March 10, 2026
- Phase 1 Results (Shortlisting): Announced 8 To 10 Days After The Registration Deadline **(Approx. March 18–20).**
- Phase 2 (Onsite Grand Finale): March 23–24, 2026. This Is A Strict 24-Hour Offline Building Period.

Eligibility, Team Formation & Fees

- Team Size: 1 To 5 Members Per Team.
- Registration Fee (Phase 1): Free For All Participants.
- Convenience Fee (Phase 2): Teams Shortlisted For The Offline Grand Finale Must Pay A Convenience Fee Of ₹200 Per Participant To Secure Their Spot.
- Onsite Amenities: High-Speed Wi-Fi, Food, And Refreshments Will Be Provided For All Attendees During The 24-Hour Phase 2 Event.

Hackathon Themes & Tracks

Participants Must Choose Between The Open Innovation Tracks(Category A) Or The Special Duality AI Challenge(Category B).

THEMES:

Aerospace & Space

Embedded Systems

Robotics & Control

AI Solutions

Special Track:

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The Duality AI Challenge (Detail Any Specific Requirements Or Tools Participants Must Use For This Track).

Category A: Open Innovation Tracks

For The Following Four Themes, The Problem Statement Is OPEN. Participants Are Free To Formulate Their Own Problem And Solution.

- Aerospace & Space
- Embedded Systems
- Robotics & Control
- AI Solutions

Rules For Category A:

1. Phase 1 (Idea Pitch): Teams Must Submit A Presentation Detailing Their Project Idea Based On Their Chosen Theme.
2. Phase 2 (Execution): Shortlisted Teams Will Advance To The Offline Hackathon. You Must Build And Execute The Exact Same Project Idea Proposed In Phase 1. Pivoting To A Completely Different Project During The Offline Phase Will Lead To Disqualification.
3. The Best-Executed Projects At The End Of The 24-Hour Offline Phase Will Be Declared The Winners.

Category B: The Duality AI Challenge (Specific Problem Statement)

Task: Train A YOLO-Based Object Detection AI Model Capable Of Correctly Identifying 7 Types Of Safety Equipment Inside A Simulated Space Station. Dataset: Teams Will Be Provided With A Synthetic Image Dataset Generated Using Duality AI's Falcon Platform. This Dataset Includes Challenging Conditions Such As Variable Lighting, Unusual Angles, And Partial Visibility.

The 7 Target Object Categories:

- 1.Oxygen Tank
- 2.Nitrogen Tank
- 3.First Aid Box
- 4.Fire Alarm
- 5.Safety Switch Panel
- 6.Emergency Phone
- 7.Fire Extinguisher

Challenge Goals & Requirements:

- Train A YOLO-Based Object Detection Model Using Only The Provided Dataset.
- Detect And Classify All 7 Safety Objects Accurately.
- Improve And Optimize Your Model To Achieve The Highest Possible Accuracy.
- Evaluate Your Model Using Standard Metrics, Specifically MAP@0.5 And Confusion Matrices.
- Maintain Strict Separation Between Training, Validation, And Testing Sets.
- Submission: Submit The Fully Trained Model, A Detailed Performance Report, And All Required Codebase Files By The End Of The Hackathon.

Bonus (Optional): Build A Simple Application Integrating Your Trained Model And Provide An Explanation Of How The Falcon Platform Could Be Utilized To Update And Improve The Model In The Future.

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General Rules & Code Of Conduct

- **Originality: All Development For Phase 2 Must Occur During The 24-Hour Offline Period. Pre-Built Prototypes Are Not Allowed.**
- **Data Integrity (Duality AI Track): Use Of External Datasets To Train The Model For The Duality AI Challenge Is Strictly Prohibited.**
- **Code Of Conduct: SkyHack 2.0 Maintains A Zero-Tolerance Policy For Harassment, Plagiarism, Or Disruptive Behavior.**

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Evaluation & Judging Criteria

- **Category A (Open Themes): Judged On Innovation, Technical Complexity, Relevance To Theme, Feasibility, And Final Presentation.**
- **Category B (Duality AI Track): Judged Strictly On Model Accuracy (MAP@0.5), Robustness Against Challenging Lighting/Angles, Proper Evaluation Methodology (Confusion Matrices), And Code Quality. Bonus Points Awarded For The Optional Application Build.**

All the Best

Website

FOR MORE INFO

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