Computer Visionary Challenge: Official Rule Book

1. Introduction

Welcome to the Computer Visionary Challenge! This competition is designed to test participants' skills in developing innovative computer vision applications. Participants will use advanced techniques such as image classification, object detection, image segmentation, and image generation. The challenge will assess teams' ability to extract meaningful information from visual data and create practical solutions for real-world problems.

2. Event Details

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

3. Objectives

Participants will be provided with visual datasets and are required to:

1. **Image Classification:** Develop models to classify images into predefined categories.
2. **Object Detection:** Create models to identify and locate objects within images.
3. **Image Segmentation:** Implement techniques to segment and label different parts of images.
4. **Image Generation:** Generate new images based on learned patterns from the dataset.
5. **Practical Solutions:** Create practical applications or solutions using the developed models.
6. **Storytelling and Presentation:** Present the developed applications, their effectiveness, and practical implications.

4. Eligibility

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

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5. Dataset and Deliverables

1. **Dataset Provision:**
   - **Format:** The dataset will be provided in formats suitable for computer vision tasks (e.g., JPEG, PNG, annotated images).
   - **Access:** Datasets will be distributed on-site.
2. **Deliverables:**
   - **Application Development:** Code, trained models, and documentation for the developed computer vision applications.
   - **Performance Report:** Report including performance metrics and evaluation.
   - **Practical Solution:** Demonstration or application of the developed model(s) in a practical scenario.
   - **Storytelling and Presentation:** A 30-minute presentation summarizing the approach, results, and practical implications.

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6. Competition Format

1. **Phase 1: Application Development (90 minutes)**
   - **Tasks:**
     - **Image Classification:** Build and train a model to classify images.
     - **Object Detection:** Develop a model to detect and locate objects in images.
     - **Image Segmentation:** Implement segmentation techniques to label image regions.
     - **Image Generation:** Use advanced techniques to generate new images.
     - **Practical Solutions:** Develop an application or demonstrate a solution using the models.
   - **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 image classification, detection, segmentation, and generation.
     - Performance metrics and evaluation results.
     - Practical applications and implications of the developed solutions.
   - **Format:** Presentations will be made to a panel of judges.

7. Judging Criteria

1. **Image Classification:**
   - Accuracy and efficiency of the classification model.
   - Handling of various classes and complexities within the dataset.
2. **Object Detection:**
   - Precision and recall of detected objects.
   - Accuracy of object localization and bounding box predictions.
3. **Image Segmentation:**
   - Quality and accuracy of segmentation.
   - Ability to distinguish and label different parts of images effectively.
4. **Image Generation:**
   - Realism and creativity of generated images.
   - Technical effectiveness of the generation process.
5. **Practical Solutions:**
   - Practicality and usefulness of the developed application or solution.
   - Integration and functionality in a real-world context.
6. **Storytelling and Presentation:**
   - Clarity and coherence of the narrative.
   - Quality and professionalism of the presentation.
   - Ability to effectively convey technical details and practical implications.

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
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Good luck to all participants! We look forward to seeing your innovative solutions in the realm of computer vision.