**Intro to Deep Learning Proposal Milestone Report**Fill out the following sections try to limit your update to around 300 words.

**Name:** Misha Suresh

**Repository Github Link:** <https://github.com/ms126/indoor_outdoor_sport_classification/tree/main>

**Project Title:** Sports Image Classification

**Please answer the following questions, specifically noting what has changed since your project proposal.**

**1. What problem will you be investigating? Why is it interesting to you?**

I will be investigating the classification of sports images as either **indoor or outdoor** using deep learning. This project applies Convolutional Neural Networks (CNNs) to learn visual patterns such as background, lighting, and equipment to distinguish between indoor and outdoor sports.

This problem is interesting to me because it aligns with my passion for sports and data science. Through this project, I aim to gain more hands-on experience with deep learning for image classification, which will be valuable for my career development. Additionally, framing the problem in a way that could be useful in a real-world setting—such as helping broadcasters or sports analysts automatically categorize footage—adds practical significance.

**2. What dataset will you use, and how will you get it?**

**I will be using an image dataset that I found off Kaggle. [**<https://www.kaggle.com/datasets/gpiosenka/sports-classification/data>**]**

**3. Have people worked on this problem or similar ones before, if so, what are you trying to do that's different?**

There have been prior projects focused on classifying which sport an athlete plays using image classification models. My project differs in that it focuses on the environment (indoor vs. outdoor) rather than the specific sport. This shift allows for a unique perspective on the dataset and could provide useful applications in sports broadcasting, venue-specific marketing, or even automated tagging of sports footage.

**4. How will you evaluate whether your model works or not**

I will evaluate my model’s performance using:

* **Accuracy** – To measure overall classification success.
* **Precision, Recall, and F1-score** – To account for class imbalances and ensure reliable classification.
* **Confusion Matrix** – To analyze misclassifications and improve the model’s decision-making.