

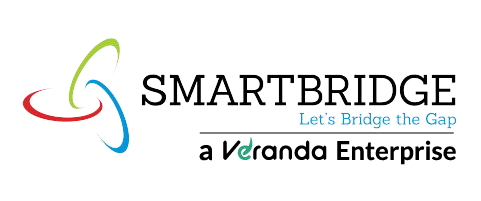
**Data Collection and Preprocessing Phase**

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| Date | 15 March 2024 |
| Team ID | SWTID1720436539 |
| Project Title | SportSpecs: Unraveling Athletic Prowess with Advanced Transfer Learning for Sports |
| Maximum Marks | 6 Marks |

**Preprocessing Template**

The images will be preprocessed by resizing, normalizing, augmenting, denoising, adjusting contrast, detecting edges, converting color space, cropping, batch normalizing, and whitening data. These steps will enhance data quality, promote model generalization, and improve convergence during neural network training, ensuring robust and efficient performance across various computer vision tasks.

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| **Section** | **Description** |
| Data Overview | The dataset consists of various images representing different sports categories. The images are collected for the purpose of classifying the type of sport |
| Resizing | Resize images to a specified target size, e.g., 224x224 pixels. |
| Normalization | Normalize pixel values to a specific range, typically [0, 1] or [-1, 1]. |
| Data Augmentation | Apply augmentation techniques such as flipping, rotation, shifting, zooming, or shearing to increase dataset variability and prevent overfitting. |



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| Denoising | Apply denoising filters to reduce noise in the images, enhancing their quality. |
| Edge Detection | Apply edge detection algorithms to highlight prominent edges in the images, which can be useful for certain types of feature extraction. |
| Color Space Conversion | Convert images from one color space to another, such as RGB to grayscale. |
| Image Cropping | Crop images to focus on the regions containing objects of interest, which can help in reducing irrelevant background information. |
| Batch Normalization | Apply batch normalization to the input of each layer in the neural network to stabilize and accelerate training. |
| **Data Preprocessing Code Screenshots** | |
| Loading Data |  |
| Resizing |  |
| Data Augmentation |  |