**Data Collection and Preprocessing Phase**

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| Date | 11 November 2024 |
| Team ID | 739849 |
| Project Title | Pixelprose - crafting visual stories with intelligent image captioning |
| Maximum Marks | 2 Marks |

**Data Collection Plan & Raw Data Sources Identification Template**

Elevate your data strategy with the Data Collection plan and the Raw Data Sources report, ensuring meticulous data curation and integrity for informed decision-making in every analysis and decision-making endeavor.

**Data Collection Plan Template**

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| **Section** | **Description** |
| Project Overview | Preprocessing involves preparing image datasets for deep learning models by ensuring consistency and quality. Key steps include resizing images to a fixed dimension, normalizing pixel values for efficient training, and applying data augmentation techniques like rotation and scaling to increase dataset diversity. Additional steps such as denoising, edge detection, and color space conversion help enhance feature clarity and relevance. Cropping focuses on regions of interest, and batch normalization stabilizes training by standardizing layer activations. These techniques ensure a robust dataset for effective model training. |
| Data Collection Plan | The data collection process focuses on acquiring diverse and representative datasets to support preprocessing and model training. Open datasets like MS COCO and ImageNet, custom data from sensors or cameras, and user-provided images serve as primary sources. Ethical considerations, proper permissions, and secure storage protocols ensure data integrity and compliance. This approach ensures the dataset is reliable and well-suited for subsequent machine learning tasks. |
| Raw Data Sources Identified | * **Open Datasets**: Publicly available resources like MS COCO, ImageNet, and Flickr30k provide annotated image collections suitable for training. * **Custom Data**: Domain-specific images collected using cameras, sensors, or web scraping tools to meet project requirements. * **User-Provided Data**: Data contributed by users or clients, ensuring compliance with permissions and privacy regulations. |

**Raw Data Sources Template**

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| **Source Name** | **Description** | **Location/URL** | **Format** | **Size** | **Access Permissions** |
| Dataset-1 | A large-scale dataset containing images. | https://www.kaggle.com/datasets/adityajn105/flickr8k | JPEG | 1.03  GB | Public |
| Dataset 2: | A dataset containing captions related to images | https://www.kaggle.com/datasets/adityajn105/flickr8k | TEXT DOCUMENT | 1.05 GB | Public |