ABSTRACT

IMAGE CAPTION GENERATOR

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The Image Caption Generator creates detailed and contextually accurate descriptions from visual content like images, addressing the limitations of traditional models in capturing complex visual details and maintaining consistency. This project uses generative AI for feature extraction and description generation, leveraging its ability to process and interpret complex visual inputs. This approach captures both global and local visual relationships, resulting in richer and more detailed feature representations. Combined with a language model, the generator produces contextually relevant and coherent descriptions. Key advancements include an interactive user interface built with Stream lit for real-time captions and multi-language support via multilingual transformers, enhancing accessibility for non-technical users and a global audience. Trained on diverse datasets, the model generates high-quality descriptions across image domains, evaluated using metrics like BLEU to ensure grammatical and semantic accuracy. The image caption generator demonstrates significant advancements in descriptive depth and contextual accuracy, contributing to automated visual content interpretation.

Keywords : Image Captioning, Multilingual Support, Bleu , Generative AI and Interactive User Interface (UI).

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