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AI Based Image Search Engine

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Abstract: In the digital era, the volume of image data on the internet and in personal storage has grown exponentially. Traditional keyword-based image search methods often fail to capture the semantic content of an image, leading to inaccurate or irrelevant search results. To overcome these limitations, this project proposes the development of an AI-based Image Search Engine that utilizes advanced machine learning and computer vision techniques to enable efficient and accurate image retrieval. The system leverages deep learning models, particularly Convolutional Neural Networks (CNNs), to extract high-level visual features from images. These features are used to create embeddings that represent the content and context of each image in a searchable format. Users can input a query image or keyword, and the engine retrieves visually and semantically similar images from the database using similarity measures such as cosine similarity or Euclidean distance in the embedding space.

Keywords: Artificial Intelligence (AI), Image Retrieval, Deep Learning, Convolutional Neural Networks (CNN), Computer Vision, Feature Extraction



